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The Problem of Prosperity

BY LEWIS COREY

THE TORTURINGLY slow recovery and incomplete prosperity emphasize the severity of the depression of the 1930's, the worst in American history.[1] Never was economic wastage on so great a scale. Cyclical unemployment was up to twice as high *relatively* as in any previous depression, and for the first time it engulfed large numbers of salaried employes. The most severe previous depression, that of 1873, was over in six years; by 1880 prosperity was on a higher level than before the breakdown. Now, however, nearly eight years after the crisis broke forth in all its fury, economic activity and, particularly, employment are still below 1929 levels, while the prospect is one of incomplete, short-lived prosperity with unusually large unemployment. What is the answer of capitalist economists to these developments?

Capitalist economics, many of whose exponents in the pre-1929 "New Era" claimed that prosperity had become everlasting and that cyclical breakdowns could no longer occur or occur only in very modified form, has contributed little toward an explanation and understanding of the most disastrous of cyclical breakdowns. That is all the more significant because of the increasing discussion of the problem. The classical economists have simply repeated, sometimes with additions, the unreal theoretical assumptions by which they attempt to explain an essentially unreal world that they call capitalism. Other economists, especially those of the institutional persuasion, have made brilliant and illuminating analyses of particular aspects of the problem, but they lack an inclusive theoretical and practical synthesis.

By and large the economists have split into two groups. One group advocates "compensating" the deficiencies of capitalist enterprise with increasing state intervention in economic activity: government spending, managed currency, planning, etc.—the proposals differ but they all agree that the older type of "free" capitalist enterprise won't work alone. Another group advocates a return to the

1 "In every comparison the cyclical fall from 1929 to 1932 or 1933 was greater than the average cyclical fall in preceding cycles. . . . The records of individual industries fully confirm the evidence of the indexes of production concerning the unusual length and severity of the depression." Wesley C. Mitchell and Arthur F. Burns, "Production During the American Business Cycle of 1927-1933," National Bureau of Economic Research, *Bulletin 61,* November 9, 1936, pp. 7, 19.

"basic" economic principles of free competition and the "normal" working of economic forces; the analyses vary but they all agree that *if only* the forces of capitalism were permitted to work freely there would be no economic troubles, which are not a necessary part of capitalist production but are caused by a departure from or interference with the "pure" economic principles of capitalism.

The Brookings study,[2] which has become the bible of those who want comfortable but apparently practical evasions of the economic problem of our generation, belongs on the whole to the *if only* school despite its many criticisms of orthodox economic theory. It is the most pretentious—and in some ways suggestive—answer to the theoretical and practical challenge offered capitalist economics by the crisis, yet the result is failure.

The Brookings study approaches the problem of cyclical crises indirectly, in terms of unused capacity—the inability of capitalism to use all its productive forces freely and fully—for the enormous increase during depression in the unused capacity to produce goods and services is simply aggravation of a normal aspect of capitalist production. According to *America's Capacity to Produce* there was, in the prosperity years 1923-29, an average unused capacity to produce goods and services of 22% and of 20% in the most prosperous year 1929; it was twice as great in the depression years 1933-34. According to *America's Capacity to Consume* the majority of our people during all the prosperity years were living in poverty in the midst of unused capacity and consuming too little because of lack of effective demand. Nearly 20,000,000 families, or 71%, had incomes below $2,000 yearly; it would have been possible to increase the income of all those families to $2,5000 yearly by utilizing the existing unused capacity to produce, which would have added $15,000 million to the national income.[3] An increasingly unequal distribution of income meant that a constantly larger percentage of the national income was devoted to investment and speculation, resulting in a deficiency of consumption that produced unused capacity. The two Moulton volumes are a theoretical effort to prove that unused capacity (and, inferentially, cyclical breakdowns) can be eliminated under capitalism.

1. The Significance of Unused Capacity

Unused capacity is a normal accompaniment of capitalist production, an expression of what Veblen called "business sabotage" or the "conscientious with-

2 Brookings Institution, *Distribution of Wealth and Income in Relation to Economic Progress.* Vol. I, *America's Capacity to Produce,* by Edwin G. Nourse and Associates (1934); Vol. II, *America's Capacity to Consume,* by Maurice Leven, Harold G. Moulton and Clark Warburton (1934); Vol. III, *The Formation of Capital,* by Harold G. Moulton (1935); Vol. IV, *Income and Economic Progress,* by Harold G. Moulton (1935).

3 *America's Capacity to Produce,* p. 429; *America's Capacity to Consume,* pp. 55, 119.

drawal of efficiency." In Marxist terminology unused capacity is a result of the capitalist drive toward an absolute increase of the forces of production and a relative increase of the forces of consumption.

Hence Brookings is wrong when it assumes that unused capacity is avoidable under capitalism. Nor is Brookings right in the conclusion that there was no increase in unused capacity in 1900-30. Since capitalist production drives toward enlarging the productive forces more than the consumptive forces of society, there must be a tendency toward an increase of unused capacity. Destruction of capital helps to decrease unused capacity, but it grows just the same. Many industries showed a larger unused capacity in 1925-29 than in 1909-13. One factor that minimized unused capacity in the 1920's was the expansion of the automobile industry (whose ratio of unused capacity, however, showed a tendency to rise in 1924-29): "It is conceivable that since the time of our study so nearly coincided with the period during which the growth of the automotive industry and the installation of the highway system occurred, our conclusion may be distorted. Possibly an amount of plant capacity was called for and was kept employed during this period of growth and transition which would not be required permanently and which could not be kept profitably employed."[4] Moreover, if one takes the periods 1900-15 and 1920-35 (including depressions, which should be included) it is obvious that there was an enormous increase in unused capacity.

Brookings makes a "static" statistical approach to unused capacity because it considers the problem in terms of the additional consumption that its use might bring. But that is supremely unimportant to capitalist production, which is wholly concerned with the making of profits and their transformation into capital. The significance of unused capacity is its involvement with all the factors that exert a downward pressure on the rate of profit.

Even if there were no increase in unused capacity, the same ratio in 1920-30 would threaten the rate of profit more than in 1900-10 because of the increase in overhead costs. The increasing mechanization of industry means an increase in fixed capital and fixed costs and a decrease in variable labor costs; in fact, many labor costs become fixed because a decrease in the use of operating capacity does not decrease labor in the same proportion.[5] Overhead costs multiply more than capital investment, capacity and production. Unused capacity means a decline in the creation of surplus value and profit; the smaller profit is all the smaller the greater are the overhead costs. Hence the same ratio of unused

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4 *America's Capacity to Produce,* p. 308.

5 The man hours required to produce *e.g.* a gross ton of finished steel products rise from 34.4 to 46.4 where used capacity drops from 55-60% to 30-35%, an increase in man hours of 35%, while administrative man hours rise from 1.3 to 3.2, an increase of 147%. Bernhard T. Topkis and H. O. Rogers, "Man Hours of Labor per Unit of Output in Steel Manufacture," *Monthly Labor Review,* May 1935, p. 1161.

capacity today may depress the rate of profit much more disastrously than thirty years ago.

From the standpoint of capitalist dynamics and the rate of profit, unused capacity is an aspect of the larger problem of excess capacity, *i.e.* a capacity to produce an output that is unsaleable at profitable prices. Excess capacity may be used or unused:

1. Excess capacity that is used may, under the conditions of limited markets, lower prices to unprofitable levels (or, if prices are maintained, may cut profits through higher selling and advertising costs), thus lowering the rate of profit.

2. Excess capacity that is unused permits maintenance of prices at higher levels, but two things may happen: The unused capacity limits the creation of surplus value and profit while overhead costs become proportionally larger, and may lower the rate of profit. If a particular enterprise offsets its unused capacity with monopoly prices its own rate of profit may rise; but the monopoly prices limit effective demand for the output of other enterprises, whose unused capacity consequently mounts: profitable unused capacity makes it more difficult for other enterprises to dispose profitably of their output. The final result is a more marked tendency of the general rate of profit to fall.

Brookings emphasizes that unused capacity is a limitation of prosperity because it limits the output of goods and services. That is true. But unused (or excess) capacity is a much more dynamic element in prosperity.

As excess capacity, used or unused, depresses or tends to depress the rate of profit capitalist enterprise strives to raise the rate by increasing productive efficiency and decreasing costs. That is done primarily by additional investment in more efficient equipment (although non-mechanical aids to productivity are becoming constantly more important, since they lower costs without additional capital investment). The result is an increasing output and absorption of capital goods, and the upward movement of capital accumulation stimulates prosperity.

But that upward movement undermines prosperity by the tendency to develop the productive forces beyond the profitable consuming forces of society. The efforts to overcome the unprofitability of unused capacity by means of investment in more efficient equipment end in an overdevelopment of the productive forces (in terms of profitable saleability), prosperity crashes into depression and unused capacity rises to monstrous proportions. Excess capacity tends to be used more under competition than under monopoly, which can "compensate" unused capacity with higher prices. Excess capacity is a function of profit, not of prices: of the tendency for capital and capital claims to increase more than production and consumption. The greater the capital accumulation and productive forces of society, the greater the threat of excess capacity, used and unused, undermining prosperity and moving toward that planned limitation of production, the creation of scarcity, that is typical of the decline of capitalism.

2. Consumption, Capital Accumulation and Crises

Underlying the Brookings analysis of unused capacity is the notion that consumption is the direct controlling factor in capitalist production. Hence the simple—all too simple—conclusion that since there exist an unused capacity to produce and unfulfilled desires to consume, all that is necessary is to let people consume more and put the unused capacity to use. That, of course, is the rational answer in general, but is it rational under the relations of capitalist production for profit and accumulation? Dr. Moulton answers yes, and argues that periods of active capital formation are precisely the periods of active consumption. But the reverse is equally true: periods of active accumulation are (with rare yet significant exceptions) periods of active consumption. The crucial problem is the relation of one to the other. Dr. Moulton insists on the priority of consumption and concludes that capital goods industries are "not the pivot around which the economic system moves. . . . Construction of new plant and equipment actually takes place only when the output of consumption goods is expanding. . . . The growth of capital is directly related to the demand for consumption goods."[6]

But, in a general sense, there may be whole periods in which the accumulation of capital is most active and moves upward while consumption moves downward or is stationary, the most striking illustration of the former being the American Civil War.[7]

In a specific sense, moreover, the introduction of new and more efficient capital equipment (which involves capital formation) may be independent of any preceding increase in consumer demand and may occur while consumption is stationary or declining. Enterprises may introduce new and more efficient equipment to lower costs and capture a larger share of saturated or contracting markets, and thereby increase profits. The shift from steam power to the use of electricity in industry had no direct relation to any changes in consumer demand, yet it enormously stimulated capital formation through expansion of the electric power industry. The most decisive element in the movement of cyclical recovery is the demand for new capital goods to replace outworn equipment, and that, too, is independent of any preceding changes in consumption. Recovery moves to new and higher levels of prosperity primarily under influence of the expansion of new industries because of their great demand for new capital equipment; and new industries, especially when they simply substitute new products for old (*e.g.* rayon) may develop without any immediate increase in

6 *Formation of Capital,* pp. 36, 158.

7 For the American Civil War see Wesley C. Mitchell's *History of the Greenbacks* (1903). Mass consumption was practically stationary during the 1900's.

consumption.[8] These are all cases where "the growth of capital" *is not* "directly related to the demand for consumption goods." But they may produce an increase in consumption through the purchasing power created by the upward movement of wages and salaries in the capital goods industries.

The final answer to Dr. Moulton is historical and theoretical, arising out of the nature of capitalist production itself. Where production is determined by the making of profit and its conversion into capital, accumulation becomes the determinant of production and consumption. The inner logic of capitalism drives toward an exclusive and perpetual production of capital goods and capital claims regardless of consumption; yet consumption (or the market) is inescapable and the disregard of consumption manifests itself in unused capacity and cyclical disturbances because capitalist accumulation erects barrier to its own growth by limiting the social forces of consumption. The reasons why accumulation is the determining factor may be thus put:

1. The economic law of motion of capitalist production is accumulation: the making of profits and their conversion into capital.

2. Profits, or realized surplus value, are converted into productive capital (upon which depend other forms of capital) by investment in new capital goods to produce more surplus value and profits to be converted into capital, the whole involving an increasing output and absorption of capital goods.

3. An increasing output of capital goods makes possible an increase in consumption by creating a strategic consumer purchasing power. Not one penny of the wages and salaries disbursed by the capital goods industries is spent on their output, which is all purchased by other capitalist enterprises. All the wages and salaries (except minor savings) are spent on the output of consumption goods industries, whose enlarged activity in turn creates new consumer purchasing power while the profits of that activity are transformed into new capital by investment in new capital goods. Underlying the process is the capitalization of surplus value. All the output of the consumption goods industries, including surplus value, is consumed: only that portion of the surplus value that is consumed by workers in the capital goods industries becomes capital. Moreover, all the output of capital goods workers becomes capital, including the part of their product represented by wages. If production were limited to consumption goods there could be no accumulation, the capitalists being forced to consume all their profits. Profits, moreover, would necessarily fall, for they can rise only if an in-

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8 Dr. Moulton writes, *Formation of Capital,* p. 70: "Recovery from great American depressions in the past were not typically *initiated* by a growth of new industries *during the depression.*" But that is not necessary. Recovery typically starts with an increasing output of capital goods stimulated by replacement demand, either because of obsolescence or competition. But recovery and prosperity are limited if capital goods demand is limited to replacements. Every great period of prosperity, and the whole of capitalist development itself, is dominated by increasing accumulation of capital arising out of the mechanization of old industries or the creation of new industries.

creasingly larger proportion of labor is devoted to the production of capital goods.[9]

Consumer purchasing power and consumption can increase only through economic expansion, and that expansion, as the history of capitalism makes clear, is determined by accumulation. But, and this is the basic contradiction of capitalist production, accumulation simultaneously limits consumption. Absolute expansion of markets is accompanied by relative limitation of markets, for it is the nature of capitalism to develop the productive forces of society beyond its profitable consuming forces. This becomes involved with the existence of an unused capacity to produce—unused because its use is unprofitable—and with the tendency of the rate of profit to fall. The answer is still more accumulation: a still greater output of capital goods either in the form of more efficient labor-saving devices to cut costs (and raise profits) in old industries or of equipment for wholly new industries. Hence the increase in capital goods tends to outstrip the increase in consumption goods. But this means that more capital and fewer workers are used in production; relative wages fall while capital claims and profits mount and absorb a larger share of the national income, diverting constantly more income to investment than to consumption. Relative overproduction of capital becomes absolute, further productive investment is unprofitable, and limited accumulation limits the consumer purchasing power created by an increasing output and absorption of capital goods. A crisis of accumulation sets in as the demand for new capital goods begins to decline, economic activity moves downward and prosperity crashes into the abyss of depression.[10] If capital cannot accumulate, people cannot consume. Consumption under capitalism is a by-product of accumulation.

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9 For an elaboration of this theory see Lewis Corey, *The Decline of American Capitalism* (New York 1934), chapters on accumulation, production and consumption.

10 John Strachey, in *The Nature of Capitalist Crisis* (New York 1935) comes to the amazing conclusion that the depression of the 1930's was caused by high wages and over-consumption. Yet in earlier chapters, where he is popularizing Marx, it is clear that the cause of crises is over-accumulation. Strachey (p. 329) quotes Marx to the effect that rising wages are "the harbinger of a coming crisis," and transforms *harbinger* into *cause,* making high wages a precipitant of crises. He then cites as proof the rise of real wages (forgetting the fall of total wages) in 1929-32 *after* the crisis and depression had already stunned the world. While there was some rise of real wages before the crisis, it was offset by a sharp fall in relative wages and a higher rate of surplus value, which are decisive. Strachey (p. 334) is totally wrong in assuming that in the America of 1924-29 "the rate of accumulation outran the supply of available labor power, bid up its price, and so reduced the rate of surplus value as to hurtle the rate of profit, already tottering from rapid rationalization, over a precipice"—that, of a situation in which both the rate of surplus value and unemployment were increasing! Then comes the conclusion, that the "collapse of profitability was precisely the enlargement of purchasing power" (p. 333), yet the ratio of consumption goods to capital goods output was smaller in 1928-29 than in 1922-23. Strachey forgets Marx (and the facts and theory) and comes under the influence of the Hayek-Robbins notion that too much consumption diverted capital and labor from the capital goods industries, whose collapse because of shortage of capital and labor (although in reality there was no such shortage) precipitated the crisis and depression. I hope to discuss these points more fully in an early issue of the *Marxist Quarterly.*

The revival of demand for capital goods initiates the recovery:[11] unpostponable replacements and more efficient equipment to produce at lower costs for restricted markets, or, more important, equipment for new industries. That calls into being a strategic and profitable consumer purchasing power. Revival in the consumption goods industries, independent of capital goods activity, can call into being only a consumer purchasing power that is unprofitable and destructive of accumulation because its end-product is merely more consumption and not accumulation in the form of new capital goods. This is the brutal mandate of capitalist accumulation: the existing equipment to produce goods and services cannot be more fully used until it is profitable to add to that equipment. If capital cannot accumulate, people cannot consume. Consumption is a by-product of accumulation.

The emphasis on consumption involves an abstraction of the existing economic system from its capitalist relations. This appears in Dr. Moulton's comparison of capitalist production with the primitive production which is (as under socialism on a higher level) directly for use. But the relations of profit develop an antagonism between value and use value, between production and consumption: consumption is permissible only if it is profitable. The abstraction, moreover, makes Dr. Moulton consider accumulation as essentially the formation of productive capital; hence "surplus capital," *i.e.* capital that cannot find profitable investment in productive enterprise, becomes the devil of the piece. But that surplus is also an accumulation of capital (and claims upon production); whether absorbed in foreign investments or "dissipated," as Dr. Moulton laments, in speculation,[12] it means accumulation in the form of foreign capital claims or speculative profits. To distribute that surplus as income to consumers means a deduction from profits (or from earnings of higher salaried employes). Unused capacity may be called into use, but unprofitably, and accumulation and the rate of profit may move disastrously downward. Surplus capital is an aggravation of capitalist economic crisis, not its cause—the cause is accumulation itself.

3. Prices, Consumption and Profits

Evasion of the problem of profits continues in the final volume of the Brookings study, *Income and Economic Progress,* which pitifully reveals the defects of Dr. Moulton's theory of accumulation. For he offers merely another form of the notion underlying the "policy of high wages" (exploded during the 1920's-30's): more consumption is the key to prosperity everlasting, for more consumption means more production and more profits and accumulation. But

11 In the recovery movement of 1933-34 the revival of consumption played a very important part, but that was an unusual circumstance due to government spending on relief projects.

12 *Formation of Capital,* p. 151.

Dr. Moulton rejects higher wages as the method of increasing the consumption of the masses, and urges instead "the method of expanding markets through a persistent reduction of prices as efficiency increases." The reasons for rejecting high wages are curiously revealing:

"Raising wages . . . the real income of the working population . . . has been slow and halting [because] the process runs counter to the system of private competition. If a particular businessman can reduce wages he can gain a differential over his competitors. . . . Each particular business man resists an increase in wages through fear that he will be handicapped competitively."[13]

That competition may adversely affect price reduction, too, and for the same reasons: it may be contrary to the needs of profit (and profit dominates capitalism, not competition which may come and go). If particular businessmen are afraid to raise wages while others do not, they may be afraid to reduce prices because others may competitively follow, destroy their advantage and demoralize prices and profits. Here, too, whatever the ultimate beneficial effect of price reductions, business enterprise resists for fear of the results. There are limits within competition itself to price reductions precisely as there are limits to the increase of wages, the limits being determined by profit.

Under competitive conditions, according to Dr. Moulton, "increased efficiency *make possible* lower prices, while the profit motive *insures* the *actual reduction* of prices. The greatest profit to the business enterpriser is thus derived through giving to the masses the most for their money."[14] But, he laments, the policy of price reduction "has in considerable measure ceased to operate," and yearns nostalgically for the 1870's-80's when prices fell as efficiency rose. That, however, prevented neither the existence of unused capacity nor the coming of one catastrophic major depression and two minor depressions. Moreover, the period's economic progress was determined by active accumulation resulting from mechanization of old industries and creation of new industries, not by falling prices. Nor were the price reductions *insured* by the *profit motive;* on the contrary they were forced on enterprisers by cut-throat competition that was destructive of profits and led to the development of combinations and other measures to check the fall of prices and profits.

The case of Dr. Moulton is built upon the profitability of volume, since unit costs drop as plant operation approaches full capacity. That is true, but market demand and prices affect the profitability of lower unit costs. Take the illustrative figures: A plant operating at 80% of capacity produces eighty articles whose unit cost is $108 or a total of $864 and the selling price $125 or a total of $1,000; the profit margin is $136. Obviously, if operation rise to 100% of capacity, reducing the unit cost to $100 while the old selling price is maintained,

13 *Income and Economic Progress,* pp. 110, 114.

14 *Income and Economic Progress,* p. 118.

there is a great rise in profits: from $136 to $250. The increase is still substantial if the selling price drops to $120 (assuming no additional advertising and selling costs to dispose of the additional output). But if because of saturated markets or competition the price breaks and falls to $110, the profit margin drops below the old level, to only $100, and may disappear altogether if prices drop any further. Operation at 80% of capacity was more profitable.

The disregard of capital claims and profit appears clearly in this argument: "If, for example, productive efficiency in general should increase 100% over a period of, say, twenty-five years, costs—other things being equal—would be cut in two and prices would be reduced accordingly."[15] But that ignores the fact that an increase in productive efficiency involves, by and large, an increase in capital investment *and in capital claims upon which tribute must be paid.* Capitalist enterprise is driven to force up the mass of profit and the rate of profit, making it impossible to reduce prices in accord with the increase in productive efficiency.

Again there appears the fear of tackling the problem of capital claims and profit which appeared in the *Formation of Capital.* One of the assumptions in that book was this: the devotion of 75% of the national income to consumption and 25% to savings (or investment) means considerable unused capacity and small additions to capital equipment, while the devotion of 90% to consumption and 10% to savings means practically no unused capacity and larger additions to capital equipment.[16] That is true, *but the additions to capital equipment must be accompanied by deductions from capital claims* to make it possible to dispose of the greater output: in other words, industry must now disburse more consuming than investment income. As in the case of surplus capital, a deduction is necessary from profits (or from earnings of higher salaried employes.) In earlier stages of capitalism those deductions were largely avoided because of economic expansion arising out of the mechanization of old industries and the creation of new industries,[17] and in later stages by the export of capital and imperialism. In the stage of maturity and decline that becomes increasingly impossible.

But Dr. Moulton concludes that lower prices mean higher profits. His exact words are:

"Analysis of all the factors in the situation indicates that the general level of profits need not be decreased by means of lower prices. . . . Had the volume of sales been expanded as a result of price reductions, unit costs would have been

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15 *Income and Economic Progress,* p. 119.

16 *Formation of Capital,* pp. 30-32.

17 New industries maintain profits by absorbing new capital and creating that strategic consumer purchasing power which sustains the older consumption goods industries. The crucial factor in our incomplete recovery and prosperity today is the scarcity of new industries.

reduced and profits might well have been larger. The business manager who progressively reduces selling prices as technological improvements are made need have no real concern over the long-run trend of profits. The history of business enterprise shows that under such conditions profits usually take care of themselves."[18]

That is an amazing conclusion to the Brookings study. For its thesis was, up to this point, that the unequal distribution of income, by encouraging oversaving and overinvestment, created a deficiency in consumer purchasing power that was the underlying cause of unused capacity and cyclical crises. Dr. Moulton himself said in an earlier volume: "The unequal distribution of income among the various classes of society tends to promote a more rapid increase of savings than of consumptive expenditure," and in the final volume he repeats that "the basic maladjustment in our economic system" is the unequal distribution of income.[19] Now that position is completely abandoned, for if profits rise so does the inequality of income: we are back at the beginning, only worse. The cure is friendly to the disease.

The cure is friendly to the disease because Dr. Moulton evades the problem of profit and the nature of capitalist production. Yet doubts assail him, for he writes:

"Even if profits should not actually increase, a contribution is nevertheless being made through the expansion of wealth production toward raising the level of material well-being—which is the ultimate purpose of an economic system." And then comes this lyrical passage: "This is not to inject ethical values or political ideals into an economic problem. The underlying purpose of business is to serve people; indeed only as it serves people can it serve its own best interests. To serve a small part of the people cautiously, guarding oneself at every turn lest one's own advantage might be made less by passing on the benefits of new knowledge or better methods, will give but a cramped life and a stunted development even to one's own enterprise. To prosper to the full requires constant reaching out to serve more people and to serve them more fully. Taken for business as a whole, it means serving all the people up to the maximum possible under technical limitations."[20]

Magnificent! But again Dr. Moulton is guilty of abstracting the existing economic system from its determining capitalist relations. That system is dominated by profit. Where are the businessmen who will sacrifice profits to the material well-being of the people? Nor is it a matter of good will, for the system functions only as profit permits it to function. The businessman is himself imprisoned within the relations of capitalist production. Moreover, the existence of

18 *Income and Economic Progress,* pp. 148, 154.

19 *Formation of Capital,* p. 154; *Income and Economic Progress,* p. 157.

20 *Income and Economic Progress,* pp. 154, 163.

the system is involved: to release the abundance industry is now capable of creating would endanger profits and capitalism itself. The high development of the productive forces limits capital accumulation and strengthens the downward pressure on the rate of profit, moving toward planned limitation of production and reaction against economic progress. Our incomplete prosperity is ample proof. This is the crisis of capitalism: the maturity of its economic development means decline and decay because it limits accumulation.

And now the Brookings study, after all its monumental labor, swings to the "ideal" laissez-faire economics of the textbooks, laments the interference of monopoly with the competitive price system, and calls for a "return to the very logic upon which the capitalist system was justified and extolled by both lay and professional students of the economic process during the days when the system was assuming its present general character." There is nothing "logically" and "in principle" wrong with capitalism and it is not attacked by Brookings:

"The basic economic policy which we are enunciating does, however, definitely attack what we regard as a serious abuse of the profits system and the institutions of private capital which have grown up in modern times. This is the tendency to centralize economic advantage, to protect existing business enterprises by protecting the price structure. For more than fifty years this process has been developing through the devices of corporate consolidation, pools, trusts, cartels, trade associations and code authorities. Particularly since the World War, and often with the active assistance of governments, efforts have been going forward to 'stabilize' existing business situations and to underwrite the prosperity of individuals, corporations or large business groups by attempting to stabilize prices. We believe the evidence is clear that such attempts, however well intentioned, are dangerously shortsighted. They result inevitably in 'freezing' situations which in the interest of economic progress must be left as fluid as it is possible to make them."[21]

That the structural changes in capitalism under its monopoly stage are simply an "abuse" of that system's "principles" is as amazing a conclusion as the one that profits will rise as prices fall and consumption increases and if profits don't rise it doesn't matter anyway. Those structural changes are neither an "abuse" of capitalism nor a departure from its law of motion, the accumulation of capital. The "logic" of capitalism is not competition and falling prices, but the making of profits and their transformation into capital. If lower prices are profitable, they are lowered; if not, they are not lowered. If competition threatens profit, it is limited by monopoly, which itself arises out of competition and is its inescapable result. It was precisely in the 1870's, when Dr. Moulton insists that his prescription of competition and falling prices was working, that devices to

21 *Income and Economic Progress,* p. 162.

control prices and profits were being perfected: pools, consolidation, trusts, monopoly. Not because of the "imperfections" of competition, for competition itself (all other factors aside) drives toward productive and organizational enlargement of capitalist enterprise, which makes competition constantly more destructive and unprofitable and forces its limitation.

Nor is it true that economic progress in the stage of competitive capitalism was a function of competition and falling prices. That progress was the result of increasing opportunities for capital accumulation arising out of the mechanization of old industries and creation of new industries, which made possible an increase in economic expansion, consumption and markets. If now capitalism increasingly reacts against economic progress, it is not because of monopoly and not-falling prices but of decreasing opportunities for capital accumulation as old industries are mechanized and no new industries are developing, which limits economic expansion, consumption and markets. With accumulation reacting against itself production tends to become unprofitable. That is the crisis of capitalism.

The *if only* analysis of fundamental structural changes in capitalism is essentially unscientific, and that is inescapable because the Brookings study rejects the evolutionary approach by deliberately limiting itself to a "pure" and "eternal" capitalism. Capitalism was "pure" in its competitive stage, hence economic evils are curable by buying a return ticket. (But what of unused capacity and cyclical crises and depressions under competition?) Capitalism is "eternal," hence one must not analyze economic forces as they move beyond capitalism. The Brookings study sees in monopoly merely an "abuse" of the "logic" and "principles" of capitalist production; it does not see, underlying predatory monopoly, that transformation of economic individualism into the economic collectivism which is the objective basis of socialism.

4. Toward the Abolition of Profit

The crisis of capitalism, and its accompaniment of incomplete and depressed prosperity, is an expression of the necessity of making consumption the *direct controlling factor* in production by the abolition of capital claims and profit.

Undoubtedly, and this is the half-truth in all under-consumption theories, including that of the Brookings study, consumption exerts an influence on capitalist production. But the influence is indirect, since the movement of consumption is determined by accumulation, of which it is a by-product. As capital accumulation spirals upward, and develops the productive forces of society beyond its profitable consuming forces, the temporary and precarious balance between production and consumption is upset by cyclical crisis and depression, which establishes another temporary and precarious balance since production, capital

claims and profits drop much more than consumption (an indirect proof, incidentally, that consumption in itself is unprofitable). Consumption exerts its influence indirectly, disastrously and agonizingly.

Crises and depressions were completely overcome in the past, and prosperity restored on new and higher levels, because of the increasing opportunities for accumulation arising out of the comparative scarcity of capital, the mechanization of old industries and creation of new industries. Now, however, the limitations on capital accumulation become increasingly absolute, as there is an abundance of capital and highly developed productive forces. As our productive plant is practically built (only, however, within the limits of capitalist accumulation), the making of profits and their conversion into capital is severely limited. The plant can be fully used, and economic progress assured, only by relative increase of consumption and decrease of accumulation through constantly lower capital claims and profit moving toward their abolition. Dr. Moulton does not tackle this problem and is evasive:

"In so far as the attainment of economic maturity reduces the need for new construction of capital goods, it releases a proportionate amount of our energy and resources for supplying on a liberal basis the consumption needs of the masses who have thus far been very inadequately supplied with the conveniences and refinements of life. Thus the fact that we have our plant built creates not the necessity for economic stagnation but the opportunity for economic progress in the only real sense, that is, higher average well-being for the masses of consumers."[22]

Again the call to action for an objective that disregards the character of capitalist production. The well-being of the masses, yes, but is it profitable? It is not, for an increase in their consumption must mean a downward movement in profits, investment and capital claims. Resistance to that movement means economic stagnation—depressed prosperity, permanent unemployment, lower standards of living.

It is interesting to observe how much superior to Brookings is John Maynard Keynes' approach to the problem. While insisting, like Brookings, that "consumption—to repeat the obvious—is the sole end and object of all economic activity," Keynes makes it subsidiary to accumulation: "A relatively weak propensity to consume helps to cause unemployment by requiring and *not* receiving the accompaniment of a compensating volume of new investment.[23] He comes to the conclusion that, today, the forces of consumption can be released only by a reduction of capital claims moving toward the abolition of interest. His argument may be summarized briefly in three stages:

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22 *Income and Economic Progress*, p. 71.

23 John Maynard Keynes, *The General Theory of Employment, Interest and Money* (New York 1936), pp. 104, 370.

1. Prosperity depends upon accumulation. "Employment can only increase *pari passu* with an increase in investment."

2. Capital tends to yield decreasing returns. The marginal efficiency of capital, "the relation between the prospective yield of one more unit of capital of a given type and the cost of producing that unit," falls with the increasing accumulation of capital, and is today lower than it was during the nineteenth century. Presumably it will fall still more in the future.[24] "Capital has to be kept scarce enough in the long-period to have a marginal efficiency which is at least equal to the rate of interest for a period equal to the life of the capital. . . . What would this involve for a society which finds itself so well equipped with capital that its marginal efficiency is zero and would be negative with any additional investment; yet possessing a monetary system, such that money will 'keep,' with the result that in practice interest cannot be negative; and, in the conditions of full employment, disposed to save? If, in such circumstances, we start from a position of full employment, entrepreneurs will necessarily make losses if they continue to offer employment on a scale which will utilize the whole of the existing stock of capital."

3. Full employment is increasingly dependent on the lowering of interest and its eventual abolition. That involves "the euthanasia of the rentier, and, consequently, the euthanasia of the cumulative oppressive power of the capitalist to exploit the scarcity value of capital. . . . I see, therefore, the rentier aspect of capitalism as a transitional phase which will disappear when it has done its work."[25]

These conclusions are, by and large, strikingly true and significant, although they are more the result of empirical observation than of theoretical insight. For much of Keynes' theorizing is obscure and most of it unconvincing. He has no theory of exploitation, his analysis of the relation of consumption to production and accumulation is incomplete, and his insistence on savings is a lopsided approach to the problem. Most of all, the insistence on the rate of interest to the exclusion of the rate of profit is wholly unscientific: they are different types of capital claims and represent tribute upon production. Profits are generally larger than interest, and to abolish profit while retaining interest is to permit the old devil to sneak in again. But despite all the limitations the meaning of Keynes is tolerably clear: economic progress now depends upon limiting and eventually abolishing the capital claims that restrict production and consumption.

It may surprise Keynes to be told that Marx, whom he assigns to an "under-

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24 Keynes advanced the same idea in *A Treatise on Money* (New York 1930), vol. II, p. 208: "The prospect for the next twenty years appears to me to be a strong tendency for the natural-rate of interest to fall, with a danger lest this consummation be delayed and much waste and depression unnecessarily created."

25 *The Theory of Employment,* pp. 135, 217-19, 307, 376.

world" peopled with economic cranks, anticipated, more fully and scientifically, what is the kernel of truth in his own conclusions, and without benefit of the opportunity of empirical observation accorded to Keynes by history. Keynes comes to his conclusions while capitalism is already contracting, Marx while capitalism was still expanding. Yet the genius of Marx, by sheer scientific observation and analysis, was able to project the doom of capitalism in terms of the system coming to its economic limits through the operation of its own law of motion, the accumulation of capital.

The American Civil War: Economic Aspects

BY LOUIS M. HACKER

1. The Role of Manufactures in Ante-Bellum America

The keys to the problems of capitalist production and to the character of the class structure of the Middle Period in American history, that is to say from 1800 to 1860, will continue to remain illusive unless we are prepared to visualize American society as, in large measure, based on merchant-capitalist organization. Capital was for the most part being used in non-productive enterprise: in land speculation, in speculative canal and railroad building, in the carrying trade. Even in the production of manufactured goods, always excepting the cotton textile industry, the organization was merchant-capitalist: the big enterpriser was not the producer so much as he was preeminently the financier and merchant. That is to say, he did not own the instrumentalities of production—the factories, equipment and tools—but he bought the finished articles from small independent producers working in their own cottages and mills, sometimes he financed them, and he moved these fabricated articles into the channels of commerce. Virtually up to the end of the Middle Period, in a number of the oustanding American industries—in boots and shoes, in meat packing, in considerable measure in woolen textiles, even in crude, or heavy, iron—the enterpriser was a merchant or commission man. In brief, his status was that of the pre-industrial capitalist of England and France of the middle of the eighteenth century. It remained for the Civil War, with its vastly expanded market and the great increase in the capital fund made possible by governmental borrowing and spending, to industrialize production in the United States, really in less than half a decade. By the end of the Civil War, the boot and shoe, men's clothing, iron and iron products, meat packing, milling, woolen textiles industries had reached full stature: the factory system now really reigned in America.

Too, we must understand that the pre-Civil War worker was not a proletarian wage-laborer. He did not sell his labor power to the industrialist and take up employment under the roof of a factory where production and management

were planned and centralized. In short, he did not engage in social production. He labored in his own shop or in a rural mill, laid down his own conditions for his employment and worked only when his fancy or immediate necessity dictated. For in conjunction with his cottage or his labor in a mill he also ran a small subsistence farm as a rule. He was an independent producer economically and a petty bourgeois in terms of his class loyalties. Even in the New England cotton textile factories, the organization of the labor force, notably in conjunction with the so-called Waltham system of production, was really on a pre-industrial basis. The operatives as a rule were young women who had been gathered from the countryside and inducted into the factories, but only for temporary periods. The average length of employment was not much in excess of two to four years and then these female operatives returnd with their small savings to the family farms to settle down as farmers' wives or to migrate west in the same capacity. They were not proletarians, therefore, in the modern sense: they were not completely dependent upon their wage-labor for their livelihood. And it was not until these young women were replaced by male immigrants, starting with the middle 1840's, that the proletarization of the factory population in cotton textiles may be said to have begun.

If we keep these significant distinctions in mind we are in a position to understand the true nature of the Middle Period. Capitalists continued as merchants and financiers until they had exhausted all the possibilities of expansion in these areas of enterprise and were finding those few remaining attended by too much risk. They moved into the Civil War only because the capture of the state promised to make possible the necessary conversion of their roles from merchant capitalists into industrial capitalists. The workers did not participate as an independent class in the Civil War actually because they were not yet workers, or proletarians, in our modern sense.

The first transformation that took place in the field of manufactures was the conversion of household production into cottage and mill production. Notably in the cases of textiles and iron goods this movement began to take place, and it continued from the end of the Revolution well into and through the whole Middle Period. Household production was largely on a non-exchange basis in the capitalist sense. The colonial farm families had produced goods for home use and had entered small surpluses into their local markets only to create cash for the purchase of those necessaries they were incapable of fabricating themselves. After the American Revolution, and as the domestic market expanded, it was natural that these household producers should become cottage workers for merchant-manufacturers, or merchant capitalists. Textiles (particularly those associated with the conversion of flax into linen cloth and the manufacture of hosiery and other knit goods out of wool), straw hats and bonnets, iron nails, boots and shoes, all those goods that did not require automatic

machinery and where the processes of fabrication from raw materials into relatively crude finished goods were simple: these became the spheres of activity of the new capitalists. Production took place at the farm homes or in cottages erected as "ells" to the homes: the enterpriser, in large measure, was only a middleman. Thus V. S. Clark, the historian of American manufactures, in describing this early stage of the organization of production, writes:

"Large vans circulated through New England and the Central States, leaving at the farmhouses along the way bundles of straw plait to be sewed into hats and bonnets, and boot and shoe uppers to be closed and bound. . . . The making of garments was less an urban occupation than at present, and farmers' wives and daughters sewed and finished goods for city merchants."

It is not to be assumed that organization was always on this simple plane. Sometimes one process of production was already industrialized, as in the case of woolen textiles where the yarn warp and filling were made by power machinery and were then turned over to country weavers for final manufacture into cloth. Sometimes the cottage workers possessed only their workshops, laboring on raw materials and using equipment supplied by the merchant-manufacturer. Sometimes they worked in mills altogether, that is to say, even the workshops were owned by the enterprisers. But whatever the stage—whether it was complete cottage production or a combination of the two—because the producers engaged in it were country-folk and the growers of their own immediate necessaries and the possessors of their own homes and because they had not yet been inducted into the round of social production, they were not yet a factory population. The compulsion of daily toil and of the acceptance of a wage scale fixed by the employer did not exist.

Nowhere is this better illustrated than in the boot-and-shoe industry, which was organized on a cottage basis until the demands of the Civil War for large quantities of ready-made shoes metamorphosed production overnight. The Middle Period enterpriser was a merchant, frequently the owner of the local grocery store. The producers therefore were paid in truck from the shelves of the shop, whose proprietor operated a central workroom and a storehouse either behind or above his mercantile establishment. He employed a few journeymen and other artisans on a piecework basis in the central workroom in order to prepare the leather for fabrication. A little later on, the inworkers also cut the soles and uppers. The actual sewing was performed by the outworkers in their cottages—as a rule in so-called ten-footers, or "ells" of that size added to the farm homes. The merchant furnished the leather, binding, thread and other materials; but not the tools. The semi-processed leather and the finished boots and shoes were delivered and collected by carriers who received a percentage of the pay of the outworkers. As the merchant's activities expanded, with the growth of the market particularly the Western one, he surrendered his retail establishment, paid his

outworkers in cash instead of truck, and concentrated on the operations of his office, warehouse and packing and shipping departments.

It will be noted that under such a dispensation production was neither supervised nor continuous—two of the outstanding characteristics of the factory system. Indeed, the cottage outworkers were an independent and sturdy class of small producers. They were countrymen who were fond of their hunting, fishing and small talk, and not an impoverished and beaten factory population: and these were the village artisans who prized their liberties, read and understood Emerson and Thoreau and hated deeply the black slavery of the Southern plantation economy. Notably in New England, the seat of the boot-and-shoe industry, these free yeoman-cottagers dominated production until well on into the 1850's; it was not until automatic machinery and the demands of the war appeared that the ten-footers were abandoned and the producers became factory operatives.

What was true of boots-and-shoes was also in considerable measure true of the great food industries, which, in terms of value of product, stood far in the van of the manufacturing activities of the Middle Period. Indeed, flour milling, baking, brewing and meat slaughtering and packing were perhaps the last of the industries to quit the cottage and mill stage for the factory stage. Originally entirely household industries—for in an agricultural economy the creation of home necessaries is to be taken for granted—these were quickly caught into the domestic system as the growing market created outlets for their products. The role of the enterpriser in meat packing was characteristic. He was called a packer, but the term was used so loosely that in the 1840's and 1850's it included commission merchants, provision dealers, drovers, commercial farmers and even stock raisers. Despite the existence of a number of great packing centers in the West—notably Cincinnati, Louisville, St. Louis, Milwaukee and, later, Chicago —a large part of the animals slaughtered and packed were handled by country butchers and at small rural—and temporary—plants. Indeed, in the 1850's technical journals found it necessary to quote prices for something like 233 different packing points scattered over nine states of the Middle West. Because of the absence of transportation facilities, the dominant figure in those areas was the commission merchant who ranged up and down the country-side, picking up animals and packed provisions and moving them into commerce for farmer-butcher accounts.

The Civil War revolutionized the industry because it hastened its integration. The needs of the Northern armies compelled the regularizing of the supply. Financed from government contracts a body of men arose who proceeded to collect all the various functions of modern packing and slaughtering under a common roof. From being country butchers and commission merchants they became packers in the industrial sense. They set up their own stockyards (near

receiving points); created a cash market; and slaughtered, packed and erected plants for the utilization of the waste products. It was no accident that the men who obtained Civil War government contracts—Jacob Dold, Philip D. Armour, Nelson Morris—were to emerge by 1865 (when the Chicago Union Stockyards were established) as the packers of modern-day capitalist enterprise.[1]

In iron and in the manufacture of woolens, the preponderant role of merchant capital is not quite so clear; not because of overwhelming evidences to the contrary but because these industries were more scattered and it has been more difficult, as a result, to piece together a unified pattern of experience. Certainly, in the case of iron, mill production—in the sense that the term is used here to signify small country plants with a rural or village working population only partially dependent upon wage-labor for its subsistence—continued to predominate right through the 1850's. Indeed, most of the blast furnaces, bloomeries and forges—the plants converting the ore into the heavy iron of commerce, of pigs, blooms and bars—were located in the country because of the continued dependence of these works upon charcoal as their basic fuel. The mill owner also ran a country store and paid his workers in truck: and the existence of truck payments is not only an evidence of highly organized integration (the company town of today) but also of cottage production. The semi-processed iron was sold just as frequently to storekeepers for resale to cottage workers and local blacksmithies for rolling and slitting (hence the use of the term "merchant iron"), as it was to industrial rolling and slitting mills and to naileries.

It would be difficult to argue that even in the 1850's the iron industry was integrated to such a degree that it offered outlets for large-scale capital enterprise. Thus, industrially speaking, the production of crude iron was on such a primitive level that despite the continued existence of a high tariff wall during the whole Middle Period—a barrier which at times reached as hight as 100

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1 There is an interesting confirmation of the theory presented in this essay from a legal source. See K. L. Llewellyn "On Warranty of Quality, and Society: II" in *Columbia Law Review,* March, 1937. Llewellyn's intelligent researches show that the New York courts, beginning with the early 1870's, no longer were using the rule of *caveat emptor,* a rule that had operated previously without question and which obviously was in the interests of a dominant merchant capitalism. The buyer, up to the 1870's, had to beware because the seller represented economic power; the courts mirrored this relationship. Suddenly, without warning, without troubling to write lengthy opinions, the courts shifted over to the contrary view: warranty of quality of goods is assured whether acceptance or not has taken place; in short, "warranty survives acceptance." What had happened was simple: and the suddenness of change reflected in decisions substantiates the theoretical argument of my essay, that capitalism had predominantly become industrial virtually overnight and through the Civil War. In writing of the changes with the 1870's in the New York courts, Llewellyn says: "This has me utterly baffled. Without notice or a hearing, opinions shrink from ten pages to two . . . I judge that lay interest in the topic of warranty disappears about the time of the Civil War, nor does it revive. The judges work thereafter as technicians, not as the conscious spokesmen of the people. The event is clear and understandable enough. What I cannot fathom is the abruptness." Note 80 (p. 372). The abrupt shift in economic power is the answer.

percent in specific duties—not enough iron was being turned out to satisfy domestic requirements. Foreign stocks were constantly being imported. Also, the tardy growth of Pittsburgh, which, as soon as the Civil War was over, quickly came to dominate the industry, proves the point. In 1826, there were only 7 rolling mills in the area and these did not consume much more than 6,000 tons of blooms and pigs; in 1850, the number of rolling mills was 14 and the consumption of heavy iron 59,000 tons. In 1857, the number of mills was 21 and the consumption of iron 132,600 tons. The Pittsburgh industry was constantly beset by difficulties. It could obtain capital only from local sources and in such small quantities that it was not until 1859 that the ironmasters of the area erected their own blast furnaces and began to free themselves from their dependence upon the uncertain supply of the country plants. The binding together of furnaces and mills was the first stage in the attainment of capitalist production.

This analysis of the essentially pre-industrialist character of the iron industry before the Civil War is substantiated by L. C. Hunter in the following words:

"[The year 1859 marked] the transition between two essentially different phases in the development of iron manufacturing in this country and at Pittsburgh. Of the period just closed it may be said that the manufacture of iron was controlled and conditioned by the needs and requirements of a pioneer agricultural population, which were met to a large extent by the forges and rolling mills without the mediation of manufactories of finished iron products. The principal function of the manufacturer of wrought iron was to supply the country iron workers, blacksmiths by profession or necessity, with bar iron to be shaped to meet the needs of farmer, wagoner and mill owner. . . . In the period which followed the iron manufacturer gradually ceased to serve the agricultural population directly. The demand for iron came increasingly from industries engaged in the production of finished iron goods and the machinery of industry and commerce. . . . The agricultural era gave way to what might be termed the industrial era."

How significant a role cottage production played in the manufacture of woolens, by the time the Civil War opened, it is similarly difficult to say. Woolens are less controlled by the style factor than other textiles, so that a sizeable amount of stuffs must have entered local markets, particularly in the West, long after large plants operating automatic machinery had appeared in New England and New York. The part of the merchant-manufacturer was exactly similar in these back-country regions of the America of the nineteenth century to that of the country clothier of sixteenth and seventeenth century England: he turned over to the cottagers the carded wool and yarn and bought back from them their woven cloth and knitted ware. A. H. Cole, the historian of the industry, declares that as late as 1830 household and domestic production was still exceeding factory production; and that even during the 1840's domestic

production was significant. When we recall that the fabrication of woolens preeminently lends itself to farmhouse manufacture and that the constant growth of the country westward into areas not yet opened by adequate transportation facilities created a vast number of small local markets, we have every reason to assume that spheres of activity for cottage producers and merchant capitalists handling their products continued to flourish. Indeed, it was not until the 1870's that, according to Cole, domestic manufacture finally became a negligible feature of the industry.

Even in connection with cotton textiles, where the factory system appeared early, the organization of production was not at once on an industrial-capitalist basis. Historians have permitted themselves to be bedazzled only too easily by the introduction of automatic machinery and have accepted the existence of power spinning and looms as evidences of factory manufacture. The factory system under capitalism does not mean only the division of labor that the use of automatic machinery usually brings in its train: it also implies supervision of work by the owner or his manager, continuous and rationalized, or social, production, the free utilization of capital both for short-term and long-term needs and the employment of a working force wholly dependent upon wage-labor. In this sense industrial capitalist production in manufactures—the factory system —did not exist in the United States, as a prevailing tendency, until the Civil War quickly hastened its maturity. Even in cotton textiles it was not really achieved until the middle 1840's. When Samuel Slater erected the first cotton textile plant in America, at Pawtucket, R. I., in 1791, he was employing automatic machinery, it is true; but the factory system did not begin here.

The Slater plant was really a mill, using power looms, for the manufacture of cotton textiles. It was owned by the mercantile firm of Almy and Brown; the only capital it continued to employ was the original investment plus such profits as its owners were willing to plough back into operations; and its labor supply was made up entirely of children whose parents were nearby village dwellers, undoubtedly engaged in agriculture. Wage payments were in truck out of the Almy and Brown grocery store. This Rhode Island type of cotton textile organization, as it came to be called, continued to flourish well through the 1830's not only in Rhode Island but also in Connecticut, southern Massachusetts and the Middle Atlantic States generally. Its characteristics were everywhere the same: village or country plants employing whole families presumably also farmer owners or workers; payment in truck; and capital funds that rarely extended beyond the original financing and reinvested small profits. Miss Ware, the historian of the early industry, records the fact that in Rhode Island in the 1830's, the average plant was capitalized at not much more than $30,000. It is also important to note that in Philadelphia, the principal rival of New England in the industry, production for a long time continued to take place in small hand-

weaving shops where the yarn was supplied by merchant-manufacturers. The prevalence of this type of production in textiles, and of course the continuance of the mechanic or artisan in most of the customary urban trades, help to account for the decidedly petty bourgeois political and economic programs of the Philadelphia workers in the late 1820's and the 1830's.

In northern Massachusetts, in New Hampshire and Maine, production in cotton textiles begins to approximate the factory system, in its capitalist sense, more completely. Here sprang up, first around the fall line points of eastern and northern Massachusetts, beginning with 1815, a group of industrial communities where not only automatic machinery but also factory organization was introduced. In the words of Clark: "Labor was specialized and workers were organized by departments. Wages were paid in cash, output standardized, cost accounting introduced and buying and selling systematized. In a word, the commercial, technical and operative elements of a factory were brought together in accordance with an intelligent plan and so coordinated as to make a more efficient producing unit than had hitherto existed in this country. Manufacturing was specialized completely and no longer retained even subordinate relations with household industry or general merchandizing." (For "household," read "domestic." L.M.H.)

Starting first at Waltham (hence the use of this city's name to express this type of organization) and quickly appearing in Lowell, Manchester and Lawrence, large cotton textile factories arose to absorb sizable capital funds and to give employment to large numbers of workers. Thus, the Waltham Company, financed by a group of Boston merchants, started operations with $300,000 paid-in capital which in less than a decade was doubled; the original capitalization of the mills established at Lowell ran from $600,000 to $1,000,000.

It has been pointed out that the working population was a factory population in its dependence upon wage-labor; but not entirely so, for in the Waltham type of plants, up to the middle 1840's, the operatives were exclusively young women who were collected from their parental farm homes and permitted to return to them after the accumulation of small savings. In one sense, therefore, the "Waltham" operatives were not yet an urbanized proletariat. When these young women were supplanted first by immigrant male operatives and then by native-born men and women—their roots no longer in the countryside—the process of industrialization of the cotton textile manufacture was complete.

By the middle 1840's, the young country girls were gone and urban male operatives, wage-laborers in the full sense, had replaced them. But the despotism, now no longer benevolent, continued. The mill cities now were full company towns: churches, newspapers, local politicians were owned by the industrialists; the terror of the blacklist meant starvation and not banishment to the country. Said a workers' newspaper in 1846 of the factory system of modern capitalism:

"That the factory system contains in itself the elements of slavery, we think no sound reasoning can deny, and every day continues to add power to its incorporate sovereignty, while the sovereignty of the working people decreases in the same ratio."

2. Planter Capitalism

Southern capitalism, unlike most of the Northern capitalism of the Middle Period, had its roots deep in production; and its perplexities grew out of the peculiar nature of the type of organization it employed. It is scarcely necessary, at this late date, to emphasize that the plantation economy was not a unique social system but a form of capitalist enterprise made necessary by the fact that Southern capital was invested largely in slaves rather than in land. The planter, therefore, was not a feudal lord producing in a natural economy but an enterpriser raising cash crops for sale in a money market. The factor that wholly differentiated him from the industrial capitalist was that his capital fund had virtually no elasticity. He was committed—and doomed—to commercial agriculture because that was really the only thing his capital—his slave gang—was fitted for.

What was significant in the planter's position was the following set of circumstances. The price of cotton (fixed in a world market) fluctuated beyond his ability to control it and by the 1850's—when the crisis in Southern capitalism emerged—prices received for Southern staples were out of line with costs of production. It is true that there was no wide disparity between the prices of cotton and rice and the prices for those necessaries planters required to maintain their farms and homes. But these latter were only one element in plantation costs: in addition, there were the freights, commissions, interest payments and the capital costs of slaves; and these were steadily mounting. As a result of the toll taken by such fixed charges there can be no question that the value of the Southern farm dollar was shrinking in a period that was witnessing an inflationary movement due to the heavy inflow of gold following the California discoveries.

The agriculturists of the free states were able to adjust themselves to this situation by reducing their unit costs through mechanization and greater efficiency of production. The Southern agriculturist could decrease his fixed costs only at two points: lower rents (that is to say, constant movement from old regions into new) and lower costs for slaves. The first was regularly taking place: indeed, one of the characteristics of the whole Middle Period was the transfer of operations from already exploited areas into hitherto uncultivated ones. The most decided movement was into the West; but Southern planters were also constantly bringing under the plow land never before cultivated in old settled regions.

Up to the 1850's this type of relief was enough to continue to insure the profitability of the plantation system. Indeed, it is a mistake to assume that one of the unescapable pressures on Southern capitalist agriculture was its exhaustion of available lands for its particular type of exploitation. L. C. Gray, in his monumental history of Southern agriculture, has proved clearly enough that the plantation system, rather than being confronted by land dearth was, at the opening of the Civil War, faced by potential abundance with the promise of the opening up of new regions by the railroads. The pinch came, however, when reduction of rent costs by transference to new areas of operations was not sufficient. For while prices of necessaries needed for farm and home were going up sharply, and the price of cotton was fluctuating erratically, the price of prime field hands also was advancing. Why was this? Because the superior methods of organization and their location in new planting regions made it possible for lower South farmers to tempt away the slaves from the interior and the East. That is to say, by the late 1850's, with scarcity in the available unfree labor supply, slave prices were based on their productivity under ideal conditions. To the great majority of Southern planters, therefore, it was of the utmost importance that this form of capital costs also be reduced: and it could be done only by the legal reopening of the oversea slave traffic. The center of Southern agitation was largely at this point.

There was another area of disaffection. The inflexibility of Southern capital has already been referred to: Southern capital was concentrated in plantation operations. The result was, plantation lords were dependent upon outside funds —these largely came from the North—both for the maintenance of their homes and for all the processes associated with the planting, cultivating, harvesting and bringing of a crop to the market. The factors, bankers, brokers, shipowners and warehousemen who served Southern agriculture were merchant capitalists from without who monopolized these activities and drew their interest and profits from providing these services. For such services the South believed it was paying too high a price. Undoubtedly it was. The necessity for commanding capital funds to make possible the shifting of operations and with which to buy new slaves; and the constant need for short-term credit to finance virtually everything the planter did: these put the Southern economy completely at the mercy of the moneylender.

Thus, in the midst of the panic of 1857, when prices for Southern staples continued good, Southern publicists and political spokesmen were inveighing bitterly against the dominance over their economy by Northern merchant capital. This they characterized as "the unnatural and colonial dependency of our commercial community on New York." One may note that word "colonial"; Southern leaders were projecting themselves back into an earlier period of revolutionary crisis in American annals and viewing their ills as springing once again

from their exploitation at the hands of a superior and absent economic power.

Here, therefore, was another series of costs which had to be reduced. How could this be accomplished? By a closer alliance with English capital which would help the South free itself of its unhappy connection with Northern capital if the South were in a position to offer a *quid pro quo*: a system of free trade under which Southern exports of plantation wares would be balanced by imports of English manufactured goods and English services and capital.

In terms of these necessities the Southern capitalist class moved into the Civil War just as insistently as did Northern capitalism. Northern capital sought to control the state to make possible the transference of its activities from the lower plane of merchant capital to the higher one of industrial capital. Southern capital sought to control the state to make possible the continuance of the plantation system of production on the basis of lower fixed costs for slaves and lower rates for services and credit. The conflict was an irrepressible one, just as had been the similar struggle between two kinds of economies in England two hundred years earlier.

The plantation system flourished early in America in connection with the Southern colonial production of tobacco. When, after the Revolution, cotton became the basic cash crop of Southern commercial farming, none of the essential characteristics of the plantation was changed. These were: a monoculture which could employ labor for the greater part of the year; the use of an unfree labor force, which was able to produce surplus value over and above its own subsistence costs; extensive rather than intensive cultivation because of the necessity for extracting a maximum current money income from the capital, *i.e.* the slaves, invested; and dependence upon outside credit for much of the normal functioning of the whole structure.

In terms of such an order there existed many areas where weaknesses manifested themselves. Gray has described clearly perhaps the most significant of these:

"It is probable that the characteristic tendency in commercial planting regions toward an economy that stressed maximum current money income was not favorable to the rapid accumulation of wealth over a long period. It involved the neglect of soil conservation and the numerous petty economies that contribute toward accumulation. The waste of the soil necessitated periodically heavy expenses in the purchase of land. The large money returns of fortunate years stimulated extravagance in the planting class, a tendency naturally promoted by the necessity of maintaining external evidences of superiority over economic and social inferiors. . . . That the South in general, and particularly the lower South, was continuously a debtor region was partly due to the requirements for new capital on account of the exigencies of expansion. But the relative poverty of the South, as compared with the North, was largely the result of a system of rural

economy characterized by extravagance both in production and consumption, a system that concentrated a large proportion of the money income in the hands of a relatively small percentage of the population. A large proportion of the remaining white population were pushed into isolated regions where they pursued a largely self-sufficing economy. . . ."

The maintenance of a fresh labor supply was the life-blood of the slave plantation system. By the Constitution, the oversea slave traffic has been outlawed in 1808, and while a small illegal traffic continued up to 1860, the great increase in the slave population was due to natural causes. But in the old South, from 1810 to 1860, the Negro population had only doubled, while in the new and lower South in the same half-century it had increased tenfold. Obviously, the great growth in the latter region was not due to natural reasons alone; the key to the riddle is a simple one: slaves were moved into the area on a commercial basis from a group of states which, in effect, became the breeding districts for the whole system. These states were principally Virginia, South Carolina, Kentucky and Missouri.

The traffic was competently organized and directed. The traders bought and sold for their own account or on commission; there were assembling centers in most of the Southern towns at which were collected slaves picked up by field agents; and distributing points in the deep South from which the blacks were sent out into the plantation areas. When trading firms bought for their own account, they used the auction method to dispose of their human wares. Obviously, sentiment could play no part in the business: families were broken up, children being parted from their parents and husbands and wives separated as the demands of the buyers necessitated.

Since prime field hands performed the most important economic functions in the plantation economy, the highest value was placed upon these workers; and these were the young male slaves between the ages of 18 and 30. From 1800 to 1845, slave prices fluctuated more or less in harmony with the price of cotton: at New Orleans, a prime field hand in 1800 was selling for $500; in 1828 for $700; in 1837, for $1300; in 1843, for $600; and from 1845 on the rise was a continuous one having next to no relationship to the ups and downs of the cotton market. The great demand of lower South planters for hands and the inadequacy of the domestic supply ran the price up until, in 1856, it stood at $1500 and in 1860 at $1800. Other slaves, as a rule, sold at from 40 per cent to 50 per cent of the value of the field hands; at the outbreak of the Civil War infants were being bid in at from $7.00 to $10.00 a pound.

3. The Crisis of the 1850's

The decade of the 1850's opened with two hostile capitalist economies facing each other. At a hundred and one different places their motives and activities

clashed; and it was apparent that one or the other had to yield fully. The prize over which conflict was inevitable was the control of the state. The Southern system despite the fact that it had dominated the state apparatus of the central goverment for almost a generation, was beginning to meet with too many obstacles. An economy based upon slave labor utilized for the production of agricultural staples in a world market could not continue to develop evenly unless it was in a position to control all the economic factors entering into its costs structure. Under ideal conditions the slave plantation method of production was not inefficient: but such a situation could be realized only when the fixed charges of slave labor and the costs of interest and services could constantly be brought into line with the price that cotton commanded in the world market. Southern producers were hobbled by their dependence upon Northern capital and the Constitutional limitations imposed upon their slave supply: of these restraints it was imperative that they be free.

The Northern system found its perplexities just as clearly indicated. The roads to advance through merchant-capitalist enterprise were now almost completely blocked; the carrying trade was slipping, speculative activities in Western lands and in the building of public works had ended disastrously; the cottage-and-mill organization of production was too primitive a method to allow for the successful exploitation of the growing domestic market. Perhaps even more than the Southern capitalists, Northern capitalists required the assistance of the state: for their problem was one of transformation, that is, to convert, as quickly as possible, an economy based upon merchant-capitalist enterprise into one springing up from industrial production. State guarantees: as in the case of the building of the Illinois Central Railroad: were required to attract foreign capital. Indeed if the state were effectively bent to do the bidding of industrial capitalism, even the credit of the central government might be employed (and such turned out to be the case when the Union Pacific Railroad was chartered in 1862 and Congress advanced its promoters funds from the public treasury). Only a fully-possessed state, its every function always in step with that of industrial capitalism, could create an adequate protective tariff system, assure the continuance of a steady labor supply and establish a sound banking structure.

Another theoretical question must be raised at this point. Had American merchant capitalism, by itself, been so successful in its earlier activities as to have made possible the collection of those accumulations which would have permitted its automatic transformation into industrial capitalism? It is to be doubted. One of the characteristics of merchant capitalism, historically, has always been its wastefulness. Incapable of controlling all the forces under whose guidance it operated—at the mercy of public and private marauders constantly—the merchant capitalism of the late Middle Ages and the early modern period had succeeded in piling up few sizable and permanent private fortunes. The rise and fall

of the Fuggers and Jacques Coeur constitute typical examples of what was an inherent weakness in merchant capitalism; not linked with production and incapable, therefore, of making permanent additions to capital, it was at the mercy of every parasitic group flourishing in an age of conspicuous consumption.

How then had the transforming process taken place? Partly fortuitously; partly by bold class leadership. As has been pointed out, merchant capitalism in Europe was suffering a decline when the sixteenth century opened. Then the discovery of the great gold and more particularly the silver mines of the New World provided that new blood so necessary for the revitalization of Europe's failing economy. Because, in England notably, enclosures and rack-renting created an available labor reserve which could be driven into the characteristic pursuits of merchant capitalism—the merchant fleets, the dock and warehouse activities, the cottage industries—the extraordinary rise in prices during the sixteenth and seventeenth centuries was not matched by a comparable rise in wages. Within this growing gap, there was room for accumulation: such towering accumulation that not even the wastefulness and losses of merchant capitalism could dry it all up.

In the second place, the Oriental trade grew and flourished once more as a result of the ability of European merchants to balance their payments in the Eastern trading centers with gold and silver. But the East—as has already been said—hoarded and therefore sterilized its treasure: with the result that prices paid by European merchants in the East for Eastern wares did not rise nearly as spectacularly as did the prices these merchants received for the same commodities in the West. European merchants handling the goods of the Orient, therefore, were able to buy cheap and sell dear. Within this gap, also, there was room for capitalist accumulation.

Here were the capital funds that permitted the transformation of merchant capitalism into industrial capitalism. One other step was necessary: the control of the state, in order to eliminate the greatest parasitic force of all, the absolutist crown. This was effected first in England in the Puritan Revolution, so that the Mercantile System perfected by the triumphant English middle class represented state power exercised in the interests of a single class. The movement into industrial capitalism thus took place in England initially; this was only natural.

In America, in the first half of the nineteenth century, neither of these two conditions existed. Accumulation had taken place, but too irregularly: attended by too many chances and pitfalls: to permit of the automatic conversion of merchant capitalism into industrial capitalism. Fortunes were made—and as readily lost—in land and public works speculation. The carrying trade, because of its occasional successes, tempted merchants to linger in it until it was too late and all or nearly all was lost. Americans were not able to profit fully from the California gold discoveries because an unfavorable balance of trade drained off

a considerable part of the treasure into Europe. European investors wisely (in terms of their own interest) refused to build up American manufactures. American merchant capitalism, in short, was too weak to pull itself up by its own bootstraps. Only state assistance could do it: with public funds and governmental instrumentalities. Again, as in the case of the Puritan Revolution, the capture of the state was first on the order of the day, so that state power could be made synonymous with class power. The willingness, indeed the necessity, of Northern capitalists to enter into the Civil War can be understood only in terms of such an analysis.

From 1830 on, antagonisms between the two economies of North and South had flared up; but compromises had been possible. Accomodation, by the 1850's, no longer could be effected: for each economy had entered into crisis in that decade. The experiences of the 1850's had brought home to both Northern and Southern capitalists a sense of overpowering frustration. Then, many Southern planters were beginning to understand, their price structure could not carry the too burdensome weight of rising costs for their necessaries, high interest and service charges and the amazing inflation of slave values. Then, many Northern capitalists came to realize, the recessions of 1851-52 and 1857-60 were spelling the doom of their non-productive enterprise: they had to become industrial producers or submit to an ultimate and complete defeat. That after 1857 for the first time a sizable majority of New England Congressmen were voting to repair the breaches in the protective tariff wall, and that so many New York merchant capitalists, who were so closely bound to the Southern economy, were to throw in their lot with Lincoln in 1860, were no accidents. Northern merchant capitalism was beginning to accept the program of the Republican party: and this was a party of revolution for its clear purpose was the seizure of the state in the interests of a single class.

4. The Crisis in Southern Agriculture

The analysis made of the plantation system has already indicated the nature of the pressures on the economy that were becoming unendurable. The efforts at release on the part of the Southern capitalists must be examined in some detail.

The immobility of Southern capital has already been referred to. This was the heart of the slave-plantation problem. Capital was largely tied up in the securing of the slave supply; and because slave costs were great the Southern planter was incapable of diverting his capital fund into such areas where he from time to time required relief. He was committed to planting. It is idle to assume that the South sought to become a wholly self-sufficing region engaged as well in a diversified manufacturing and agricultural economy. Cotton, sugar

and rice cultivation brought enormous profits and created a society entirely satisfactory to its outstanding beneficiaries. But the profits were great only when all costs were in line with the prices received in the markets for the South's basic crops. The question of rent was not so significant: there still remained a vast area of uncultivated land yet to be brought under the plow. Even the soils of old-settled regions could be reclaimed (as they have been in modern times) if labor costs were reduced sharply. Force down the price of slaves, in the first place; and cut all the subsidiary costs of making and marketing a crop, in the second place: these, in the 1850's, became the real and intelligent foci of Southern agitation. If the capital value of the slave property could be lowered, then a portion of the Southern capital fund might be moved into transportation, warehousing, even banking. More particularly, if the prosperity of the planting economy could be assured English capital, at a lower cost, might be attracted to displace Northern capital with its high interest rates and unwarranted charges for services.

The price revolution of the 1850's as a result of gold importations, the high costs for short-term capital and services and the alarming rise in the value of prime field hands: these events in the face of an uncontrollable cotton market precipitated the Southern economy into crisis. Primarily, the Abolitionist agitation had to be silenced to permit once more the free buying and selling of blacks in the world and domestic markets; and free trade had to be established to throw the American market open to English manufactured goods and to attract English capital not for the building of Northern railroads but for the furnishing of Southern transportation needs and capital requirements. (So, the Democratic platform of 1856 boldly committed the planters to a system of "progressive free trade throughout the world.") Secondarily, although hardly insignificant, it was imperative that every obstacle be placed in the way of the further strengthening of the economic alliance between New York and New England capital and Western enterprise: for this reason the South was compelled to resist efforts to use public moneys to build Northwestern railroads, to throw open the Northwestern public lands to homesteaders and to lower the bars to unrestricted immigration. Finally, the movement into the Western lands had to be checked to prevent the building up of the political power of the free states. If this program was impossible of continuance, then secession and political independence constituted the inevitable alternative.

In terms of such a situation, the clamor that emerged in the South in the late 1840's and with notable frequency throughout the 1850's, for the establishment of direct routes of trade between Southern ports and Europe is understandable. Freight costs were too high when basic Southern crops moved first to Northern shipping centers for transportation overseas. Prices of Southern necessaries were too high because many of these, instead of being brought directly

from the American interior or Europe, moved first into the hands of Northern commission men and importers who then reshipped to Southern centers after adding their profits and the extra costs for transportation. Interest rates, based on book credit, ranged between 8 and 12 per cent. New York merchant capitalists even extracted their pound of flesh in the unholy African Negro trade; for, by the late 1850's, most of these slave runners were outfitted in New York and traded regularly between the African ports and the receiving stations maintained by New York capital in Cuba. Notably, because the marketing of Southern staples particularly took place at New York, the South's economic dependence upon the American money center became a source of deep-rooted irritation.

To achieve their independence from New York capital and to forge closer links with English capital, the establishment of a system of free trade was imperative. It is scarcely necessary for our purposes to examine elaborately the intricacies of the tariff debate during the Middle Period. It is enough to note here that there did not exist a powerful enough manufacturing interest to press the issue of protection so consistently as to make it a major public question. Indeed, after 1832, the question of the tariff became a subordinate one and it did not reemerge until after 1857 when the newly-founded Republican party made it the heart of its economic program.

In 1857, encouraged by a surplus in the federal treasury, the low tariff bloc drove rates down even further than under the 1846 schedules and greatly extended the free list. But the panic of 1857 proved to Northern capitalism how precarious its footing was. It began to concentrate all its energies in an attack upon the Southern tariff system and efforts were made to introduce new tariff bills in both sessions of the thirty-fifth Congress; but without avail. In 1859, a Republican plurality in the House forced through a protectionist measure with the voting now for the first time strictly on North and South lines; the Senate still controlled by the planter interest would not consider the bill. In 1860 the Republican party boldly announced its allegiance to protection, and the die was cast.

Another cause of Southern disaffection was the continued existence of a governmental policy based upon direct and indirect subsidies to the Northern mercantile interests. On the one hand, through the expenditure of public funds such a program increased taxes and therefore raised Southern fixed charges; and on the other, it placed the South further at the mercy of Northern capital. Thus, the South looked upon the monopoly grant of the coastal carrying trade to ships of American registry as indefensible and demanded the admission of ships flying foreign flags to the traffic. It sought the repeal of fishing bounties and, indeed, in 1858 the Senate did carry a bill to this effect which however failed of passage in the lower house. It successfully obtained the revocation of ship subsidy contracts in 1858. And it began to concentrate all its energies on the termination of governmental expenditures for internal improvements.

The South had not always opposed government support for public works, particularly when this meant the modernization of Southern harbors and work on river systems necessary to the maintenance of its internal transportation facilities. In fact, Southern legislators had voted for the improvement of the Mississippi River system because this created close links between the Western area and the lower South. Along the waters of the Mississippi and its tributaries had moved those vast stores of agricultural goods and raw materials—wheat, flour, work animals, provisions, lumber supplies—which the South needed for the upkeep of its plantation establishments; and down the great river had come a bewildering variety of Western products to be loaded on ships at New Orleans for shipment into foreign trade. For this reason, Southern agricultural interests and Western agrarians had seen eye on eye on most of the significant public questions of the first four decades of the century.

But with the late 1840's, the Western section of the country increasingly was turning its face eastward: and by the end of the decade the great entrepôt for Western commodities was no longer New Orleans but New York. East and West were being bound by networks of canals and, more recently, by railroads; and Eastern capital was beginning to flow slowly into Western enterprise inevitably to link both regions together in an economic alliance. And the free farmers who migrated westward into the prairie states were largely of Middle State and, further back, New England origin.

By the 1850's, Southern leaders came to realize that the West was lost to their section; and that the further economic development of the West could end only in a firmer cementing of the union between New York and New England capital and the Western areas of exploitation and enterprise. For this reason the South objected to a further liberalization of the government's land policy through the enactment of homestead legislation, to a freer immigration program and to the many schemes for the utilization of public credit to construct Western railroads with which the newspapers and congressional lobbies of the 1850's began to resound. The South had yielded on the bill for the granting of public lands to build the Illinois Central Railroad: but this line was to run north and south. To the proposal for public assistance in the laying of a Northern Pacific line east and west, however, the South was steadfastly hostile. In opposition to what had become the natural route of an east-west Pacific railroad along either the central or the northern tier of states, the South championed a route with its eastern terminals at Memphis and New Orleans; and, once and for all to put an end to the clamor for federal support, Southern leaders advocated the building of such a line through a corporation financed by the Southern commonwealths themselves.

It was at this point that Northern politicians effected a masterly coup. They threw their support to Western demands for rails and free lands (in both enter-

prises, obviously, they were also interested economically) in exchange for Western support for high tariffs. This alliance of economic interests, on sectional lines, was at the basis of the creation of the Republican party; and the South was isolated.

In the political sphere up to the 1850's, the South had been holding its own. The struggle over the opening up of the territories to slavery we must view essentially as a political and constitutional rather than an economic question. The admission of new states, under the control of the slave plantation system, meant political power in the Senate, in the House (it will be remembered that slaves were partially counted for apportionment purposes) and in the electoral college. The Missouri Compromise for a considerable length of time had swung the balance clearly in the South's favor. The admission of Texas had promised the continuance of that victory. Operating through the Democratic party, the Southern planting interest in the three decades from Jackson's election to that of Lincoln controlled the Presidency and the Senate for twenty-four years, the House for twenty-two years and the Supreme Court for twenty-six years. But the country was changing too rapidly: a further attempt to achieve lasting security was imperative. This was the basis for the Southern reopening of the territorial question in 1850 and the efforts on the part of Southern leaders to plunge the country in imperialist adventure in Cuba and the Caribbean.

The Compromise of 1850 opened up Utah and New Mexico, in the Mexican cession, to slavery. The fugitive slave law extended federal power vastly and curbed the populations of the free states in their efforts to aid runaway Negroes. The Kansas-Nebraska Act of 1854 threw open the still remaining territories in the Louisiana Purchase to the settlement of both free and slave farmers; the popular sovereignty of their own populations was to decide their status as states. The Dred Scott decision of 1857, in an obiter dictum handed down by the Southern chief justice Roger B. Taney, declared that Congress had no power over slavery in the territories, that the Missouri Compromise was unconstitutional and that (by inference) the whole principle of popular sovereignty was also nugatory. In brief, the owners of slaves might move with their property anywhere; and thus it would always be possible to keep alive the question of political supremacy by the constant colonization of both territories and states. And in the international sphere, President Pierce gave his approval to declarations of American interest in the West Indies and President Buchanan proposed to Congress that an expeditionary force be sent into Mexico to collect the claims of American nationals against our southern neighbor.

All this, however, was unavailing: climate and capital were arrayed against the slave-plantation economy. In the decade of the 1850's three new free states, California, Minnesota and Oregon, had been admitted into the Union but not a single slave state. And the West was already seating an expanding population

of free farmers and petty bourgeois enterprisers who, because their destinies were linked with Northern capital, must sooner or later gain and keep the admission of their territories as free commonwealths. Lincoln, when he was elected in 1860, was a minority president in terms of his popular vote: but it was only a question of time when the party and class he stood for should be overwhelmingly in the ascendancy. The South, thus, stood before political defeat. Secession was its only remaining choice.

5. The Crisis in Northern Merchant Capitalism

The stresses and strains under which Southern planting capital labored in the Middle Period and which had become critical in the decade of the 1850's, were being repeated, with different emphases, of course, in the realm of Northern merchant capital. It, too, was entering into a stage of crisis. Release from its besetting contradictions lay in the same realm of action, that is, seizure and control of the instrumentalities of the state to make its agencies more completely expressive of the program of a transformed capitalism.

Because of its primary dependence upon speculative activity, Northern merchant capital was at the mercy of every chance wind that blew across the national and international horizon. Business was good from the turn of the century until 1806 because the engagement of England and France in a death-struggle created opportunities for American commercial enterprise in supplying the needs of the military powers and in those areas outside of Europe where the grip of the English Mercantile System had necessarily to be relaxed; and profits poured into the shipbuilding industry, into land speculation and into some manufacturing activity. From 1806 to 1809 domestic recession took place because of the blockade measures of the European contestants and Jefferson's retaliatory devices. From the first quarter of 1809 to the middle of 1812 there was a mild revival as foreign commercial relations were again reestablished, and then a depression once more set in as England turned her attention to the task of cutting down the growing stature of her oversea commercial rival in the carrying trade.

With the end of the Napoleonic Wars and the return of peace to Europe, America's recently achieved preeminence in the carrying trade and as a supplier of raw materials was seriously threatened. Too, England, devoting herself with increasing zeal to the development of her manufactures, was able to appear in our domestic markets to dump finished goods in our ports at much lower prices than our still unformed industrial production could compete with. Also, the end of the First Bank of the United States' charter meant the closing down of the only credit agency in the country operating on a national basis. The crisis was particularly severe in 1819; and American capital was badly hurt in its subordinate activities associated with land jobbing and the internal carrying trade.

The period 1820 to 1845 witnessed another series of advances in the American economy, which, however, was shaken from time to time by profound dislocations. The domestic market widened thanks to the great growth of the population and the opening up of the interior regions by the steamer and canal boat; foreign capital poured into the country to make possible the construction of a vast public works program; the movement westward of the cotton planting area and the growing clamor of Europe for American cotton created unexampled opportunities for capital in the carrying trade and merchandizing; profits from shipping were available for investment in land companies, the building of canals and manufacturing enterprise. The movement of credit continued unimpeded as a result of the ability of the Second Bank of the United States to tap English and American savings for the use of agriculturists, which was legitimate, and of land speculators, which was not.

The whole edifice of Northern merchant capital came crashing in 1837 as a result of the overextension of speculative activity in land jobbing and public-works construction; as a result of the Jacksonian attacks on the Second Bank of the United States; and because of the contraction of spheres of activity associated with the sea, that is, shipbuilding, carrying trade, the fisheries and whaling. The China trade was finished; American merchants were being pushed out of the Pacific; the fur business was disappearing; the remnants of the Mercantile System, in the form of the Corn Laws, still stood in the way of the export of American cereals to the growing English market. The crisis of 1837 was prolonged into deepening depression, a period of stagnation from which American merchant capital did not emerge until 1843.

The period 1843-1860 was not one of constant advance. Indeed, by the second half of the 1850's, it became increasingly evident that there were vital flaws in an economy that was based so heavily on the mercantile and speculative rather than on the productive side. Business picked up and profits poured in, largely due to the following factors: The internal market was expanding once more, thanks to population growth and the further penetration into a West which was being opened up by the coming of the railroads and the introduction of steamers on the Great Lakes. The heavy gold importations from California permitted America to balance international payments abroad and also led to a rise in prices. Banking systems grew larger and more secure as a result of the establishment of state agencies of supervision, notably in the East. The repeal of the English Corn Laws, completely after 1849, created a new market for American cereals and meat products. International disturbances—famine in Ireland, the war between England and China, the Crimean War, the Sepoy Rebellion in India—temporarily were to the advantage of American producers and shipowners.

New areas of enterprise opened up for the accumulations of merchant cap-

ital. The European money markets, because of their unfortunate experiences with our securities during 1837-43, were suspicious of American investments; but liquid American funds were being made increasingly available as a result of the release of capital from the shrinking carrying trade. Money poured into the West in a growing flood: into the land offices; into the speculative buying of bankrupt railroad companies; into the speculative development of timber and mineral properties. Funds, too, were available for manufactures, and it was this period which saw the conversion of the New England textile manufacture from its original pre-industrial forms into the full factory system.

The difficulties that beset accumulation could not be concealed, however. There was a premonitory tremor in the business world in late 1851 and a major panic in 1857 from which recovery was not complete even when the Civil War broke out. American merchant capital was too much dependent (in the words of Smith and Cole) upon "the changing fortunes of finance and business in England. Our trade was then, as in the preceding decades, financed predominantly on the London money market; our exports were largely industrial raw materials and foodstuffs . . .; while our carrying trade . . . was bound to feel repercussions from the variations of prosperity and depression in the European industrial and commercial centers." What was blocking the advance of American capital so that it was still so closely linked with the fortunes of European enterprise? The answer is not far to seek.

American manufactures had never had a complete opportunity to develop to maturity: the quick profits to be made from land speculation—which were as easily lost—had prevented the concentration of capital necessary for modern industrial organization. European capital was available only for public works projects and American funds, under this leadership, had been drawn into the same field of investment—also with disastrous results. The carrying trade had not declined all at once but was suffering a lingering death, with the result that too many merchant capitalists stayed on in it until it was too late. The control of the state by the planting interest had prevented the employment of public aids to the development of manufactures, particularly a real protective tariff system and support from public credits. The banking system was still geared to the needs of an agricultural rather than an industrial economy, thanks to decentralization of control. The experiences of 1857-60 brought the lesson home to Northern capital in unerring flight: expansion in the future lay in the direction of industrial production rather than in mercantile activity and speculation.

It was no accident that the initial centers to feel the effects of the panic of 1857 were in the West: for it was in this area that had taken place the overextension of merchant capitalist enterprise of which we have been speaking. A large number of state banks, which were simply agencies for making available credits for the land speculators and speculative railroad promoters, came crashing

down. And New York, which had become the financial center of the country, received the shock fully: banks suspended payments; stock prices and commodity prices dropped, interest rates rose; loans and discounts (and it was at this point that the Southern planters became involved) fell off. Indeed, during 1858-61, the loans and discounts of the New York City banks were at a lower level than they had been in the period preceding the recession; thus indicating that the depression had not yet run its full course when the Civil War broke out.

It was small wonder that capitalists began increasingly to pay attention to the admonitions of advocates of protection like Horace Greeley in New York and Henry Carey in Philadelphia. In the midst of the depression Carey could say with telling effect: "At no period in the history of the Union has competition for the purchase of labor, accompanied by growing tendency toward improvement in the condition of the laborer, been so universal or so great as in 1815, 1834 and 1847, the closing years of the several periods in which the policy of the country was directed toward . . . protection." The Republican party, its ear close to the ground, heard these rumblings of discontent in the East; and, whereas in 1856 it had been silent on the question of the tariff, in 1860 it spoke out loud and clear. Lincoln ran on a platform calling for protection, a more liberal immigration policy, governmental subsidies for internal improvements, federal aid for a railroad to the Pacific and a homestead act. As regards the slavery question, the Republican party was not so sure: it had nothing to say about Abolition and called only for the suppression of the recently reopened illegal slave traffic and for the keeping of slavery out of the territories. Its economic program won the support of capitalist groups in the doubtful states of Pennsylvania and New Jersey in the East, Indiana and Illinois in the Middle West and California in the Far West; its stand on slavery held the free-soilers of the rural Northern and Western communities. Lincoln obtained only a plurality of the popular vote but a majority in the electoral college; and the South was confronted by a party and a class in power, in the Presidency, at least, which was hostile to its economic plans.

The Southern states seceded, and this act marked the outbreak of what Charles and Mary Beard have correctly called the Second American Revolution. It was a war between classes in the same sense that the English Revolution had been. The bone of contention was control of the state in order to assure either the supremacy of the slave and plantation system or that of a transforming capitalism. It had become plain that both economies could not exist side by side.

The Railroad Strikes of 1877

BY PHILIP A. SLANER

THE great majority of important strikes in the United States have been fought on a fairly substantial trade union base. In the Pullman strike of 1894 closely-knit railroad union organizations, under a leadership which consciously planned and directed the strike, fought a game but losing battle. The anthracite coal strike of 1902, the steel strike of 1919, and the rather extensive strikes on the eve of Coolidge "prosperity" had, for their support, organized trade union bodies. The railroad strikes of 1877, on the other hand, had no solid trade union organizations on which to rely. The cyclical crisis of 1873 and the years following decimated the ranks of organized labor, and the relatively few trade unions that had been formed in boom years were smashed to pieces by widespread unemployment and extensive wage cuts.[1]

1. Background of the Strikes

The most important of the railroad organizations, the Brotherhood of Locomotive Engineers abjured strikes in practice and theory. The secret Trainmen's Union, although it had a good deal of influence in the Pennsylvania and Baltimore and Ohio railroads, was not a very extensive and closely knit organization; besides, it was plagued with internal dissensions. On the other hand, although the railroad strikes of 1877 owe their origin to the consistent wage reductions of the great railroad corporations which lowered the standard of living of their workers to the starvation level, it must be understood that these wage reductions were only the necessary conditions of the strike and that trade union organization and agitation, even though non-extensive, played an important role in the strike.[2]

1 The New York *Times* estimated that trade union membership for that city had decreased 25% (from 44,950 to 35,765) during the year preceding December, 1874. In 1877 it further dwindled to approximately 5,000. The same held true of the West; in Cincinnati the entire trade union membership in 1878 was not above 1,000. The number of the national trade unions decreased from approximately thirty during the early seventies to eight or nine during 1877. Gompers, some twenty years later, estimated the total membership of all trade unions in 1878 at 50,000.

2 The widespread contention (*vide* John R. Commons and Associates, *History of Labour in the United States,* vol. II, p. 276) that the railroad strikes were spontaneous in origin is erroneous.

The strike, extending from Baltimore to St. Louis, and including cities on almost every railroad in the country, was carried on in a more militant manner than any other strike in American history. In St. Louis the city officials abdicated, and a workers' committee, under the leadership of members of the Workingmen's Party of the United States, was in control almost two weeks. The militia proved unreliable to the state and railroad magnates, and not only refused to fire at the strikers, but, at times, actually aided them. The newspapers and magazines, startled by a strike which took on the character of an insurrection, printed wild, bloodthirsty headlines and clamored for a more effective use of force. The strikes, resting on no solid organizational foundations, succumbed to force and loss of momentum. After the defeat of the strike, the frightened railroad magnates and captains of industry, heeding the gratuitous advice of the newspapers, demanded a wider use of the injunction, conspiracy laws against labor, more numerous and stronger armories, and a reorganized and centralized militia; these demands were granted by courts and legislatures. One further important fact should be noted: the strike was the first virulent outbreak of the class war in America between labor and capital; for the first time in American history, Federal troops were used extensively to shoot down and suppress strikers.

After the Civil War and the crushing defeat of the Slave power, capitalism developed "at a headlong pace." As Marx pointed out, "the handing over of an enormous proportion of the public land to speculative companies for exploitation by means of railways, mines, etc." led to the "creation of a financial aristocracy of the meanest sort," which was interested in rapidly accumulating capital.[3] The rapid advance of industrial capitalism was transforming the character of industry. The ratio of fixed capital to wages was two to one in 1849 and three to one in 1879.[4] The value of manufactured goods, produced for a protected home market, rose from $1,885,861,676 in 1859 to $5,369,579,191 in 1879.

The most active factors in the rise of American capitalism after the Civil War were the railroads. An effective system of transportation was necessary to convey crops cheaply from the West to the East, and to return manufactured commodities. The products of the coal, iron and copper mines, as well as other raw materials, had to be transported cheaply from their source to the manufacturing and smelting centers. Increase in railroad mileage after the war was stimulated by land grants, loans from the government, and a ready market for

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Despite the fact that the trade union movement in America was extremely weak in the 1870's, the discontent of the railroad workers was channelized into unions, even though they proved abortive. Assigning the origin of the strikes to "spontaneity" is merely an excuse for refusing to investigate the activities of the secret unions and the results of these activities.

3 Marx, Karl, *Capital* (International Publishers edition), p. 857.

4 According to figures of the Bureau of the Census, fixed capital rose from $533,245,331 in 1849 to $2,790,272,606, and wages from $236,735,464 to $947,953,795.

railroad securities, combined with a cheap labor supply. At the close of the Civil War there were 35,085 miles of railway in the United States; by 1873 the mileage jumped to 70,628. During the depression, of course, there was a great lag in railroad construction, and in the four years following 1873 there was an increase of only 8,460 miles.

These increases in railroad mileage and transportation facilities were accompanied by widespread manipulations in railroad stocks and other securities. The overwhelming majority of securities listed on the stock exchange in 1873 were those of railroad corporations, and, as Veblen states, the most conspicuous traits of twentieth century business enterprise were first exemplified in the building and management of railroads in the 1870's-85's. Shrewd financial manipulation, hardly to be distinguished from outright thievery, cutthroat competition and rate wars, railroad consolidation "deals," almost always at the expense of the community, monopoly exploitation of any city or industry whenever possible: such were the most salient features of this development.

The development of railroad unions, on the other hand, hardly kept pace with the rapid rise of railroad mileage and transportation facilities. The Brotherhood of Locomotive Engineers, however, was formed in 1863 as a direct result of railroad consolidation, and under Robinson's leadership, which lasted for a year, the union was a militant organization. In 1864, after Robinson's dismissal, Charles Wilson, an engineer of the New York Central Railroad assumed control and pursued a policy of collaboration with the management.

In 1866 a threatening letter from the Erie railroad management was meekly approved by the Brotherhood convention, and at the convention of 1866 Wilson urged the group not to endorse a strike on the St. Louis division. In 1873 Wilson denounced in the press a strike of the engineers on the Pennsylvania Railroad, which had been caused by the management's ordering "a reduction of pay within a day's notice in spite of the fact that it had an agreement to pay a certain price."[5] The engineers were enraged and forced Wilson to resign. P. M. Arthur, who had been elected as an insurgent against Wilson, pursued the same conservative policies. He discouraged strikes and tried to secure recognition of the union. This was not granted because of peaceful pressure, but rather because of the highly strategic character of the engineer's work.

Besides this Brotherhood there were the Order of Railway Conductors of America, founded in 1868 as a fraternal order, the Brotherhood of Railway Firemen, and the Trainmen's Union, which had some influence on the Erie, Pennsylvania, and Baltimore and Ohio Railroads.[6] None of the unions, however, was sufficiently strong to meet the steady wage-cuts instituted by the railroad companies after the panic of 1873.

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5 Commons, *op. cit.*, 2, p. 67.

6 The Trainmen's Union was founded in June, 1877.

The panic and ensuing depression hit the United States more severely than any European country, save Germany. At least one-quarter of the working population was unemployed during this period, and, in 1874, demonstrations for unemployment relief took place in Chicago and in New York under the leadership of the then badly split International Workingmen's Association.

The marked deflation in wages and prices concomitant with the resumption of specie payments, insured by the Act of 1875, further accentuated the downward spiral of industry. Each year up to 1878 brought increasing failures. In 1873, 5,563 concerns, capitalized at $228,000,000, failed; the number of failures increased to 5,830 in 1874, to 7,740 in 1875, and to 4,749 in the first half of 1877.[7] The last was the severest year of the depression, although it was only in 1879 that prices culminated in their downard trend. According to the Aldrich Senate Report of 1893, the median index of wages declined from 185 to 143 during the years 1872-1877; there seems evidence of further deflation in wages, however, and Mitchell states that the number of cases shows no conclusive results.[8] The decrease in the wages of railroad employees from 1873 to 1877 was 37% for trackmen, 24% for conductors, and 23% for brakemen, while other occupations received sharper cuts—the masons receiving a cut of 37½%, and the plasterers of 50%.[9]

The contention of bourgeois historians like Rhodes and Oberholtzer that the railroads were practically bankrupted by rate wars and the effect of the depression is not borne out by the facts. Railroads cut wages in order to maintain the earning capacity of watered stock.

Although, according to the *Railway Gazette,* the profits of the railroads decreased from $46,327,000 in 1873 to $22,580,000 in 1876,[10] many transportation lines remained fairly stable and continued to pay the same rate of dividends. The rate wars of 1875 and 1876 between Pennsylvania, Baltimore and Ohio and New York Central Railroads did not damage the capital stock or earning capacity of these lines. The stock in the Baltimore and Ohio, which, paying a 10% dividend, was valued at $154 before the panic of 1873, rose to $188 in 1875, only decreasing sharply in 1878 after the railroad strikes. The stock of the New York Central increased in value from $99.38 before the panic in 1873 to $106 in 1878, and the Pennsylvania stock, although as watered as the New York Central's, did not decline much in value until 1877, when it reached a low of $33 a share. The Erie, ruined by the manipulations of Jay Gould, defaulted and went into

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7 *The Labor Standard,* July 21, 1877.

8 Mitchell, Wesley C., *Gold, Prices and Wages Under the Greenback Standard* (Berkeley, Cal. 1908), p. 122.

9 *Railway Gazette,* August 10, 1877. The random statistics, however, lead to no definite appraisal of wages and prices during this period.

10 *Railway Gazette,* August 3, 1877.

receivership, its stock declining from $62 a share in 1873 to $8.12 a share in 1878.

The strikes of 1877 did not take place on the upswing of the business cycle, as is usually the case, but rather at what was almost the lowest point in the depression. The strikes were not fought to restore wage-cuts, but rather to resist the constant pressure of the magnates to force down wages to the starvation level. The common opinion of the men was that it was better to starve striking than to die at work by slow starvation. Only this can explain the fact that the strike, spreading everywhere, developed at such a quick, uniform pace, and that the strikers pursued such aggressive, militant tactics.

2. The Strike on the Baltimore and Ohio

In the early part of July a circular emanating from superintendents of the Baltimore and Ohio Railroad announced a wage-cut of 10% to take effect July 16, 1877. The wages of firemen were to be reduced from $1.75 and $1.50 to $1.58 and $1.35 per day, depending on the individual's efficiency. The pay of the brakemen was fixed at a little less. There was to be no allowance of time for delays at way stations, and 100 miles was to constitute a day's run. The incipient wage-cut created ill feeling among the workers, since this was their third wage-cut in three years;[11] a committee was appointed among them to confer with Vice-President King of the Baltimore and Ohio, but he refused to discuss the matter, much less rescind the wage-cut. The management felt confident that the depression would prevent any strike, and in few localities, in fact, did striking seem imminent.

The strike broke out at Camden Junction near Baltimore on July 16. Forty firemen and about thirty brakemen went on strike, and as a result the railroad became completely embargoed. Reports from the West indicated that the canal boatmen had gone on strike, and in Baltimore itself the sawyers and box-makers struck for a 10% wage increase.

On the following day, July 17, 1,200 brakemen and firemen struck at Martinsburg, West Virginia, a city on the Baltimore and Ohio. The strikers, who had made no preparations, showed a sound knowledge of tactics by derailing and forbidding the passage of freight trains only, allowing passenger and postal trains to go straight through. King soon had cognizance of the situation, and sent a dispatch to Governor Matthews of West Virginia to send troops. The governor immediately complied with the request, and sent a detachment of the National Guard under the command of Captain Faulkner to Martinsburg. The militia prevented any obstruction of freight traffic by the strikers; but the few engineers, either from fear or because of class consciousness, refused to operate the trains.

11 The previous slash had reduced wages from $2.25 and $1.75 to $1.75 and $1.50 per day. New York *World,* July 17, 1877.

The militia, composed mainly of workers and farmers, refused to shoot the strikers for derailing freight trains, and, because of common sympathies, fraternized with the railroad men, handing over their weapons to them.[12] The working class population in Martinsburg and the nearby cities, hard hit by the depression themselves, ardently supported the strikers, and held sympathetic meetings over the whole countryside. Faulkner, not being able to control the situation, withdrew with as many men as possible, and notified Governor Matthews of the fact. Concurrently strikes broke out at Cumberland, Keyser, Grafton and Wheeling, on the same railroad line.

At Baltimore, on July 18, the strikers' committee issued a printed statement in defense of their actions. The leaflet stated the fact that the workingmen on the Baltimore and Ohio had had three reductions in wages in three years, but that they were nevertheless willing to acquiesce in a moderate reduction. The men complained that they were frequently sent to Martinsburg, were detained there four days and paid only two days' time, and were compelled to pay board there higher than the wages they received. They also contended that the sporadic employment they were receiving made them incur debts, with resultant attachment of wages and discharge; and finally they said that the support of a family on the meagre pay received was an impossibility.[13] King attempted to answer these complaints in a letter to the *Railway Gazette* of August 3, 1877 by stating that the Baltimore and Ohio was forced to cut wages on account of decreased earnings, and that the pay of the workers was higher in 1877 than during the Civil War.[14]

An extensive dispatch to the *World,* July 18, from Martinsburg, very clearly illustrates the policy of detention and sporadic employment pursued by the Baltimore and Ohio: "A day is a trip from Grafton to Wheeling or Parkersburg, or a trip from these points to Grafton. When business is brisk a man can make nearly every day. His wages then scarcely cover expenses; but when business is, at present, dull he can scarcely make thirteen days in the month. On arriving at the end of the trip he is compelled to wait 'his turn' to go back. This consumes frequently three or four days, during which he is compelled to pay his board at $.75 per day. I talked with one of the strikers at Grafton today. He informed me that he had made but five days this month. Nearly half of the seventeen days of July he had spent in Wheeling waiting for his turn. This, at $.75 is $6.10. His wages at the present rate for five days would amount to $1.25 plus five, or $6.25,

12 Godkin of the *Nation* called this action arrant cowardice, while the *Labor Standard* (July 28, 1877), a New York socialist newspaper, declared: "Honor and glory to the militia of West Virginia, who fraternized with their fellow workmen and refused to butcher their own kin and kith. Every military volunteer should be on the side of his class."

13 Dacus, J. A., *Annals of the Great Strikes* (Chicago 1877), p. 43.

14 During the course of the strike the railroad management refused to confer with the strikers.

leaving fifteen cents to support his family at that place." And the cost of living was higher than at New York.

The other statement of King, that the railroad was forced by necessity to cut wages, bears investigation. The Baltimore and Ohio had a very low stock capitalization, amounting to $14,783,300 in 1877, and paid a dividend rate of 10% on its stock, which rate was not reduced during the depression. The railroad, nevertheless, had a high bonded indebtedness, and the bonds, owned mostly by John W. Garrett, president of the Baltimore and Ohio, and by his family, paid interest of 6%. Both the stock and the bonds were above par, the former selling for $153.25 a share in 1877 (which was 75c a share below the 1873 value), and the latter, maturing in 1885, selling for $106.

The net earnings of the Baltimore and Ohio during the previous year were $4,220,726 and a dividend of 10% was declared; in addition there was a surplus of $1,314,410. It was stated at the time that the return of a loan of $40,000 to Baltimore was paid before it was due, and mortgage loans valued at $120,500, due in 1880, were paid off. Other sums, one amounting to over $500,000, were paid off before maturity, and the remaining total surplus was $1,952,573.90.[15]

On the available evidence it seems quite clear that although the high indebtedness of the Baltimore and Ohio, a policy consciously maintained by Garrett for his own personal profit, might be declared unsound from a technical financial viewpoint, the paying off of bonds before they matured, the high rate of dividends and interest, and the huge surplus, indicated that the wage-cut was declared, not from reasons of financial necessity, but rather with the purpose of maintaining the high rate of profits and dividends. These facts were known by most of the citizens of Baltimore, who showed a deep resentment of the policy of Garrett and the Baltimore and Ohio. It was Garrett's policy to institute railroad improvements and replacements only when they were shown to be absolutely necessary to prevent railroad accidents and probable law suits.[16]

After Matthews had learned from Faulkner that the militia was fraternizing with the railroad men, he wired President Hayes for troops on July 18, charging that the strikers were pursuing violent means to obstruct railroad traffic. Secretary of War McCrary wanted more facts before sending out troops, but Hayes, after some delay, ordered General French, commander of the Washington Arsenal, to proceed to Martinsburg at once, and in addition sent out a company of seventy-five men under Barry from Fort McHenry. On July 19, French, with his company of 250 men, arrived at Martinsburg without much difficulty, and soon opened the railway arteries to freight traffic, but the workingmen refused to man the trains.[17]

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15 *National Labor Tribune,* August 25, 1877. Neither King nor Garrett denied the figures.

16 Hungerford, *Baltimore and Ohio Railroad,* vol. 2, p. 124.

17 New York *Tribune,* July 20, 1877.

The necessity of Matthews' appeal to Hayes for troops may be judged from a dispatch sent to the *World* from Martinsburg on July 19: "It was known yesterday that Governor Matthews had applied to the President for military aid upon the ground that the State authority was powerless to suppress what the Governor had pleased to term domestic violence. This is a libel on the people. There has really been no violence offered by the strikers against the peace and dignity of the State. . . . If such had been the condition of affairs there would have been no lack of aid to suppress it; but the militia of West Virginia shrank from shooting down the parcel of unarmed, starving men who had only asked sufficient pay to keep body and soul together. It had become entirely too common to call out the military in local emergencies, and it has been well observed that if the rights of the strikers had been infringed or violated instead of that of the Railroad corporations, it is probable that Governor Matthews would have hesitated a long while before he would have thought it his duty to call on the president for aid."

The later dispatches to the *World,* however, grew less "impartial" as its editorial opinion grew more bitter towards the strikers; at the beginning of the strikes its editorials merely stated that the men were "foolish" to strike against wage-cuts which were made necessary because of the extreme deflation and the decrease in revenue, while suggesting that the employers should explain the reasons for the wage-cuts. A little later the paper praised Hayes' policy and called for an unequivocal use of force.

General French, assisted by the sheriff, arrested Dick Zepp and other leaders of the strike; he then telegraphed to the Adjutant-General that Hayes's proclamation, calling for cessation of all action obstructing the railways, had been circulated, and that "everything seemed quiet." Delaplain, French's assistant, at first telegraphed for 100 more rifles and two pieces of artillery, but soon rescinded the order. The strike, however, was not crushed so easily.

The militant tactics pursued by the Martinsburg men rallied the entire working class population of the neighboring counties. Before French came, meetings in support of the strikers were held at Martinsburg. Strikes broke out at Keyser and Wheeling, West Virginia, Cumberland, Maryland, and Newark and Columbus, Ohio.

Despite the suppression of the town meetings by French and his troops, the strikers' committee at Grafton demanded $2.00 a day, and said that if the troops were successful at Martinsburg, trains would soon be stopped at other points of the road. Two hundred canal boatmen went on strike and proceeded to St. John's river, twelve miles east of Martinsburg, where they proposed to stop all trains. Before they were driven off by Federal troops, they had succeeded in stopping five westbound trains. Meetings of unemployed were held at Cumberland, and resolutions were adopted calling for the support of the strike; miners in the nearby

vicinity also pledged their assistance. At Westernport a strikers' committee issued a proclamation concluding with the words, "We shall conquer or die." Faced with a serious situation, Garrett telegraphed Hayes to send troops to all points affected and requested Governor Carroll of Maryland to send the militia to Cumberland.

Governor Carroll immediately ordered the state militia to Cumberland, and issued a proclamation warning the railroad workers to desist from obstructing traffic. The workers of Baltimore, hearing that the militia was to be sent to Cumberland to suppress the strikers with whom they heartily sympathized, assembled in the business district during the afternoon of July 20. On the previous night the Workingmen's Party had held meetings at Baltimore in support of the strike. Hesse, a member of one of the German speaking branches, called for government ownership of railroads and a workers' state. Other members called for a mass meeting to demonstrate the sympathy of Baltimore workers with the railroad men.[18]

At six-thirty P.M. on the evening of July 20, the military call, "1—50—1," was sounded from the Baltimore armory in order to assemble the militia to depart immediately for Cumberland. The call not only brought out the scattered militia but a large assemblage of workers who were determined not to allow the militia to leave Baltimore and suppress the Cumberland strikers. The crowd assembled outside the armory, and when the sixth regiment attempted to leave it and beat a path to the railroad station, they were hissed and stoned by the workers, who, in order to protect the Cumberland strikers, blocked the militia's path at every turn. The militia fired into the group, killing twelve and wounding eighteen. Mayor Letrobe of Baltimore, too frightened to permit the troops to depart for Cumberland, wired Carroll that their stay in Baltimore was necessary. Carroll acquiesced in this arrangement. Members of the group, incensed by the bloodshed, fired the Camden Street station in Baltimore at 10:30 P. M., but the militia prevented much damage from being done.

The New York newspapers printed lurid descriptions of the actions of the "mob," and compared the events with those of the Paris Commune, of which they gave an extremely distorted picture, remembering one dead archbishop and forgetting the butcheries of Gallifet and Thiers.[19] The events, obviously, were not at all analogous to those of the Commune; there was no attempt of the working class to seize control of the city, but only to prevent the departure of the troops. Men and women, however, were referred to as unemployed ruffians,

18 Dacus, *op. cit.*, p. 65. The relations of the Workingmen's Party of the United States to the strike will be discussed in connection with the meetings and demonstrations in Chicago, St. Louis, and New York.

19 The reporter of the *World* noted very carefully that most of those shouting for bread were drunk. The paper also stated that the Internationalists had incited the railroad workers to strike with money from New York.

members of the criminal class, vagabonds, etc. According to the *Labor Standard,* these labels were applied to all militant workers indiscriminately by the capitalist press; indeed, none of the dead and wounded was a member of these professions.

On the following day a few of the leaders were arrested, and a group of quasi-vigilantes armed itself; even the vigilante group condemned Garrett, who steadfastly refused to compromise and demanded further troops.[20] General French, who had previously warned the strikers that all stopping of trains would be at their own risk, in a few days opened the road to traffic at almost all of the affected points on the Baltimore and Ohio.

3. The Strike on the Pennsylvania Railroad

Before the Federal troops had suppressed the strikers on the Baltimore and Ohio the strike had spread to Pittsburgh, the most victimized community on the Pennsylvania Railroad. This railroad maintained an almost complete monopoly on all the traffic through that city, since the Baltimore and Ohio and the Erie, the only other railroads that had termini at Pittsburgh, did not have any direct routes from that city to New York and Philadelphia. The Pennsylvania therefore "charged as much as the traffic would bear." The policies of the railroad incensed not only its employees, whose wages were repeatedly slashed during the depression, but also the businessmen of Pittsburgh, who keenly resented the economic discriminations imposed on their city. This resentment explains the fact that even the Pittsburgh capitalist press supported the first manifestations of the strike.

On July 19 the Pennsylvania Railroad, in order to cut costs of operation, tried to put into effect a new ruling which called for an increase in the number of cars taken out by one crew from eighteen to thirty-six.[21] The operation of this ruling, of course, entailed the dismissal of almost half of the employees of the Pennsylvania and thus it was not surprising that the attempt to put this policy into effect met with resistance. A strikers' group was speedily augmented by the unemployed railroad workers of Pittsburgh, who, in a short time, effected a complete cessation of railroad traffic through the city. The few policemen on duty were not available to the Pennsylvania, and private police hired by the railroad management could make no headway against the determined resistance of the strikers. Mayor McCarthy, who half sympathized with the railroad workers, could not, and, in

20 A dispatch to the *World* (July 23, 1877) from Baltimore gives a good illustration of the hatred towards Garrett: "Joseph W. Garrett is said to have telegraphed to the authorities at Washington that he would not listen to any propositions of arbitration and would make no concessions to the men, but would rely on the United States Government to protect the property and franchises of the corporation. In other words, after having added misfortune to penury and made the poor employees' lives harder than they could bear, he pleads the Baby Act and wants power to back his oppression. He has reduced wages to the starvation point."

21 According to the *Labor Standard* (July 28, 1877), the employment of three men instead of the former six to man each car was illegal.

fact, did not desire to take any effective action against them. Sheriff Fife of Allegheny, in cooperation with the police hired by the railroad, attempted to disperse the strikers, but their impotent orders were ignored. Fife, knowing that the militia in Pittsburgh and the nearby vicinity were sympathetic to the strikers, hesitated to call them out, and instead, late in the evening of July 19, telegraphed to Harrisburg for troops. As Hartranft, the Governor of Pennsylvania, was at Omaha, Secretary of the Commonwealth Quay ordered General Latta to proceed at once to Pittsburgh in order to open the Pennsylvania Railroad to traffic and disperse the strikers.

The blockade of all freight traffic at Pittsburgh tied up an enormous quantity of goods and livestock, and since the strike on the Baltimore and Ohio precluded shipping the commodities via Baltimore, the officers of the Railroad desired to open the road to traffic immediately.

The Pennsylvania Railroad was by no means in a state of virtual bankruptcy, even though there had been a sharp cut in profits since 1874. The average net revenue per ton per mile, it cannot be gainsaid, decreased from $.478 in 1874 to $.291 in 1876; but the rate of dividends dropped only 2% from 1874 to 1876.[22] The net operating income of the Pennsylvania, even though there was a slackening demand for foodstuffs and raw materials in Europe and though the railroad engaged in extensive rate wars, increased from $7,167,914.54 in 1875 to $8,301,002.73 in 1876.

A net operating income of over $8,500,000 on a capital stock of $66,014,058 must be considered very high during a depression, since the road was overcapitalized: this was shown by the fact that the stock fell considerably below par with an almost unimpaired earning capacity on the part of the road. The high rate of dividends on watered capital stock, the increase in net operating income from 1875 to 1876, the fact that the railroad could earn 6% even in 1877, the year of the strikes, and the balance of over $5,000,000 showed that the wage-cuts and extensive rationalization were imposed in order to maintain a high rate of dividends and an unimpaired payment on the funded debt.

The railroad cut wages 10% at the beginning of the depression, although the net operating income increased from 1873 to 1874. Thomas A. Scott, who became president of the road in 1874, instituted a system of staggering the work among employees, and reduced wages still further to maintain the high dividend rate. On May 31, 1877, a wage reduction of 10% was instituted: the *National Labor Tribune,* an organ "devoted to the interests of labor and the protection of home industry," anticipated the formation of a union which could fight the wage reductions of the Pennsylvania. The paper said on June 2: "It is no pleasant

22 Semi-annual dividends of 5% were declared in 1874 and 2% quarterly dividends in 1876—a drop from 10% to 8% in annual dividends. In May 1877, however, there was a cut in the quarterly dividend, from 2% to 1½%.

duty to tell a man to deprive himself of his living but the hour demands sacrifices. . . . Wages are to be reduced in order to declare larger dividends and help pay interest on the bonded indebtedness. The only safety lies in prompt organization of all branches in united action."

A committee, largely composed of engineers, conferred with Scott and accepted his explanation that the wage-cut would be rescinded when business improved. A large group of employees was dissatisfied, however, with the committee's report and charged that it had acted solely in behalf of the engineers. As a result, there was organized a union of trainmen employed by railroads having their termini in Pittsburgh. R. H. Ammon, a young brakeman, was one of the principal organizers of the union and helped to extend it to the Baltimore and Ohio and the Erie.[23] He attempted to build an industrial union composed of engineers, conductors, brakemen and firemen which would be able to resist the attacks of the railroad company and be prepared to call a strike and carry it out successfully. A strike was set for July 27, 1877, but the engineers in the union, undoubtedly under the influence of the Brotherhood of Locomotive Engineers, refused to acquiesce. The plans, therefore, collapsed temporarily. The Pennsylvania Railroad management, on hearing what was being attempted, dismissed some of its active employees. But the policy of the "doubleheaders," with the dismissals entailed by it, occurring at the same time as the strike on the Baltimore and Ohio, brought the Trainmen's Union to the fore again.

Since the Trainmen's Union was secret, it is difficult to estimate the strength it possessed on the Baltimore and Ohio and to what degree it was responsible for calling the strike on that railroad. The union, however, undoubtedly helped to spread the strike to the other railroad systems. Although its influence in the Pennsylvania Railroad cannot be exactly appraised, a surmise as to its strength may be based on the statement made by a Pittsburgh fireman who was interviewed by a reporter of the *Labor Standard* (July 28, 1877): "We've got that all fixed. Union men are going to strike by sections when the right time comes on the main line and all the branches between Baltimore and Chicago, and then the men on the other through lines will join us. All they had been waiting for is someone to take the lead. It is life or death with us and we'll fight it to the end."

General Latta immediately called out the sixth regiment from Harrisburg and demanded two Gatling guns and 34,000 rounds of ammunition. He then ordered Major General Brinton to proceed at once from Philadelphia with the first division. Brinton arrived July 21 at Pittsburgh with his contingent of Philadelphia militia with the intention of dispersing the strikers and opening the railroad to traffic. He found that they were supported by striking miners from Wilk-

23 The first lodge (Allegheny) was organized on June 2, 1877. Commons, *op. cit.*, vol. 2, p. 186.

ensburg and by the unemployed of the city; they had even the sympathy of merchants and businessmen of Pittsburgh. The sheriff, who had been powerless until the arrival of Brinton, although 140 members of the eighteenth regiment under Colonel Guthrie had arrived the previous day, attempted, with the aid of the Philadelphia militia, to arrest the leaders of the strike.

The attempt of the militia to arrest the leaders of the strike was resisted, and their advance was met with groans, hoots and hisses. At 28th Street, Brinton ordered the troops to fire; twenty people were killed (including women and children) and twenty-nine wounded. According to Latta, Brinton ordered the troops to fire before any resistance was offered, but other observers stated that the troops were met with a volley of stones and lost their heads.[24]

These killings inflamed the workers of the city, who resolved to drive the troops out of Pittsburgh. The militia, stationed in the roundhouse of the depot on the evening of July 21, attempted to defend themselves against the attacks of an aroused citizenry who were seeking to revenge what they considered wanton murder. The workers attempted to cannonade the roundhouse, and after some time the building burst into flames. The militia attempted to beat a retreat to the United States Arsenal, but were refused admittance, since there were no government troops there to protect it. The strikers and their sympathizers, although their equipment was inferior to the militia's, nevertheless attempted to pursue the troops and return their volleys; but the militia, by sheer accident, were able to retreat successfully.[25]

The small contingent of police and the 3,000 members of the militia could not, of course, prevent the firing of the Union Depot at Pittsburgh and the terminals of the Pennsylvania Railroad. The railroad tracks and buildings were fired. Some workers broke into the freight cars which had been stalled for the last few days and marched off with food and other provisions.

The events of the previous evening caused widespread consternation throughout the country. The headlines of the New York newspapers were particularly lurid. The *World* of July 22 had on its front page headlines reading "Pittsburgh Sacked," "The City Completely in the Power of a Howling Mob"; and stated that "the city is in the hands of men animated by the devilish spirit of communism." The *Sun,* the most liberal of the New York newspapers at that time, advocated a steady diet of lead. The New York *Tribune* called for Federal troops and maintained that the attacks of the militia would only arouse the revenge of the "mob," while Federal sharpshooters could easily quell the strikers. Godkin

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24 The New York *Tribune,* July 23, 1877, stated that the troops advanced with fixed bayonets, the New York *Times* that the men were provoked and fired indiscriminately. After the shooting, boulders were thrown by the crowd.

25 The *World* of July 22 estimated that the strikers had seized $100,000 worth of arms from arms shops on July 21 and the day previous.

of the *Nation* stated the matter bluntly: Federal troops would result in less damage to life and property, because their cold and precise mowing down of the "mob" would effectually suppress it and prevent further mischief.

On the day after the burning of the depot and the roundhouse, Jenkins and Godfrey, two Pittsburgh businessmen who arrived at New York, gave an interview to the *World* in which they stated unequivocally that the militia's firing into the crowd was unprovoked, and that the strikers and their sympathizers were partly justified in their actions. The reports to the *World* from Pittsburgh and the secondary account of Dacus showed pretty clearly that there was slight, if any, provocation for the use of firearms on so extensive a scale.[26] Latta's statement concerning Brinton's orders must also be weighed carefully.

At a meeting of businessmen of New York City, reported the *World* on July 23, one of them was reported to have said that the burning down of old and worn-out stationary equipment and rolling stock, which had to be replaced by the road, was beneficial to the Pennsylvania, as the cost of replacement would fall on Allegheny County. He further stated that if the Pennsylvania Railroad had instigated the burning, it had made a shrewd strategic move. The *National Labor Tribune* blamed the burning on provocateurs and conspirators working for the Pennsylvania Railroad. The railroad, although the management estimated the damages at $5,000,000, received $1,600,000 from Allegheny County in 1879.

On the following day, July 23, the businessmen of Pittsburgh held a meeting at the City Hall under the direction of C. Pugh, Jr. They demanded that the railroad company compromise with the strikers and that the troops should be withdrawn. A Citizens' Committee and Guard was formed to suppress all rioting. The proposal to compromise was met coldly by the Pennsylvania Railroad, which labeled the strikers thieves; the Citizens' Committee, however, declared that the "rioters" were the "better class" of unemployed. Although 700 armed miners left Elizabethboro on July 23 to aid the Pittsburgh strikers, a group of armed citizens under Major General Weyley and a company organized by the employers of Pittsburgh effected control of the city after the railroad workers had surrendered their arms. The well-known leaders of the strike were arrested and given prison sentences. The violence subsided as quickly as it had flared up, and effective strike resistance at Pittsburgh was definitely smashed.[27]

The strikes reached almost all of the important cities on the Pennsylvania. Since the railroad workers were aided by striking coal miners, the strikes quickly developed into open class warfare. The situation became so tense that a proposal to declare the State of Pennsylvania in insurrection and to raise 75,000 volunteers was barely voted down in President Hayes' cabinet. At Reading the coal and

26 Dacus, *op cit.*, pp. 119-20.

27 Federal troops that had been sent by President Hayes, however, were not withdrawn from the city until two weeks later.

iron miners had received no payment of wages in months. Although the destruction of the Molly Maguires led to the smashing of the miners' unions, they nevertheless joined the railroad strikers in Reading on July 23. According to a *World* dispatch, the miners fought with the coal and iron police, an organization hired by Pennsylvania mine owners, and aided the railroad workers in blocking all freight traffic. The militia, which speedily arrived, began to fire without warning after shouts of "here come the troops!" The strikers were incensed by the shooting; in a short time they raided the armories and seized all available rifles. The workers drove out the troops, and then damaged the railroad tracks and mines. At Harrisburg the militia threw away their rifles and fraternized with the workers. Governor Hartranft of Pennsylvania, before the outbreak of widespread class warfare, had realized that a large part of the militia was "demoralized" and had wired Hayes for troops. These were promptly supplied, although Hayes kept soldiers to guard Washington. In that city the workers hissed the departure of troops; according to a *World* dispatch, they cheered reports announcing the successes of the strikers.

The mere fact that the Hayes Administration considered that troops were needed to guard Washington is only one indication of the state of consternation and terror into which the "respectable" portion of the community was thrown. Press and pulpit declared that the strike was an insurrection, a revolution, an attempt of communists and vagabonds to coerce society, an endeavor to undermine American institutions. The huge strike wave swept the entire country, affecting basic industries like coal and iron mining and seemed almost as alarming as the strike on the railroads.

4. The Strikes on the Erie and New York Central

The Erie Railroad, bankrupted by the machinations of Jay Gould, was the next railroad affected by the strike. The road had been in the hands of a receiver since May 26, 1876 and was running at a deficit; the difference between transportation expenses and revenue, however, remained fairly stationary. The increasing deficits were occasioned by the high bonded indebtedness and a 7% rate of interest, which was not lowered.[28] Wages were therefore constantly reduced, in order to continue the payment of a high rate of interest on the bonded indebtedness. The financial necessity of the wage reductions is difficult to determine, but the sinking price of the Erie stock (the stock reached $7.25 a share in 1877) and the existence of a receivership undoubtedly gave the holders of the funded debt a stranglehold on the valuable revenue.

The immediate cause of the strike on the Erie was the dismissal of the men

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28 The funded debt of the Erie Railroad at this time was $54,271,814, the capital stock $86,536,910, and the operating deficit about $1,300,000 for each of the three years 1875-77. See Mott, E. H. *Between the Ocean and the Lakes* (New York 1899).

who had taken part in a committee meeting with the management, in order to effect a restoration of a recent wage-cut. The strike first broke out in Hornellsville late in the evening of July 20; railroad workers who were conveying an Erie freight train westward abruptly stopped the train and attempted to block all further freight traffic. The wages on the Erie were pitiably small, the workers receiving an average of only $23 a month. Since their representatives had been discharged for merely protesting against the recent wage-cut, it was natural for their ire to be aroused. The men struck for higher wages, demanding $2 a day for brakemen and switchmen; besides they requested that "the men discharged for taking part in the committee meeting should be reinstated." The Erie officials, realizing that the three or four hundred strikers were in an effective position to block the road and that military aid was not quickly forthcoming, abandoned all idea of running trains through Hornellsville and rerouted their passenger trains. The New York Central helped by honoring all Erie tickets. Jewett, former president and now receiver of the Erie, asked for militia, but it was soon evident, according to dispatches to the *World,* that "the militia was in open and often active sympathy with the movement of the strikers." On July 22, the strikers stopped a Pacific express from New York by smashing the brake wheel. Donahue, who was reputed to be the "chief instigator" of the strike, was denounced by the officers of the road and the press as a "dangerous character," who "holds and disseminates communist views."[29]

The strike spread quickly to Buffalo and to Erie, Pennsylvania, and soon affected the New York Central in the former city. Governor Robinson of New York, alarmed at the success of the strikers at Hornellsville, and at the fraternization between the nearby militia and the workers, called out the Twenty-third Regiment of Brooklyn. The Rochester *Democrat and Chronicle* reported Gould, formerly of the Erie, to have said that the country needed a monarchy to restore order, and that the best monarch would be General Grant. This statement was repeated constantly by the strikers and their sympathizers. McAuliffe, a member of the Workingmen's Party of the United States, said that if a monarchy were to be introduced in America, it would be over the dead bodies of the workingmen.[30]

William Vanderbilt, President of the New York Central, was more politic than the officers of the other railroads when the strikes affected his railroad at Buffalo and other cities. He rescinded the recent wage-cut and sent an emissary to compromise with the strikers at Buffalo. A 25% increase was promised to the railroad men if they returned to work, and a fund of $100,000 was distributed

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29 Donahue was president of the Brakemen's Union, whose previous activities and relations with other railway unions are difficult to gauge.

30 *Labor Standard,* August 11, 1877. Sorge comments on this in *Die Neue Zeit,* vol. X, 2, (1891-92), p. 198.

as a bonus to the strikers and unemployed workers of the New York Central. The socialist *Labor Standard* strongly advised the workers not to accept Vanderbilt's bribe, but the bonus played an effective part in halting the strike on the road.

The financial structure and earning capacity of the New York Central was sounder than those of all other railroads in the country, with the possible exception of the Baltimore and Ohio. The stock of the railroad, although notoriously watered, remained above par during the depression, and the net earnings of the road remained at a high peak. Although profits per ton per mile on freight decreased sharply because of the rate wars, passenger traffic proved more lucrative than in pre-depression days. This decrease in relative profits on freight, which was the most important traffic on all railroads, did not affect the net earnings to any appreciable extent. Fixed charges and interest on the funded debt naturally reduced profits, but the year 1877 was the only year in which there was a deficit after the payment of dividends, and in this year the dividends were slightly higher than the year previous.[31] In fact the 8% rate of dividends was not lowered during the depression and the amount of dividends remained fairly constant—about $7,140,000. Considering the overcapitalization of the road, this rate of dividends amounted to over 15% on a correct valuation of the capital stock.

Although the New York Central paid a higher rate and a greater amount of dividends than any of the other railroads,[32] its rate of wages was no higher; the firemen received $1.50 and $1.75 a day, the rate paid by the Baltimore and Ohio. Cornelius Vanderbilt and his son William were interested, above all, in keeping the high dividend rate of the road intact and wage slashes bore little, if any, relation to decreases in net earnings. A reduction of 10% was imposed on the men in 1873, although the net earnings of that year and the year 1874 were much higher than in 1872. Vanderbilt pursued shrewd tactics, however, in bargaining with the strikers; the $100,000 bonus and the promised wage increase, never realized, insured him from much property damage.

5. The Relation of the Workingmen's Party of the United States to the Strikes

The specter of communism was conjured up by the newspapers, which compared the events of the strike with their distorted conceptions of the ill-fated Paris Commune. The Workingmen's Party of the United States, an outgrowth of the defunct International Workingmen's Association, was condemned virulently for its "role" in arousing the workingmen to strike and for its promulgation

31 In 1877 there was a deficit of $197,312; the dividend was $7,140,659.

32 The dividend rate of the Baltimore and Ohio was 10% but the stock of the railroad was undercapitalized.

of "incendiarism" and "violence"; the Workingmen's Party, in fact, was a revolutionary socialist party, but it strictly abjured terrorism and incendiarism.

Although the program of the International stressed trade union demands almost entirely, Karl Marx consistently urged his socialist theories throughout; he realized, however, that the building of any working class organization was a slow process and that revolutionary groups had to rely, ultimately, on a trade union base for their support. The withdrawal of the British trade unionists from the International because of its strong support of the Paris Commune, the disruptive action of the anarchists between 1869 and 1872, and the decrease in the revolutionary activities of the working class after the crushing defeat of the Commune hastened the break-up of the International.

In the United States the first organization to affiliate with the International (October 25, 1867) was the Communist Club of New York, a German body under the leadership of Friedrich Sorge and Siegfried Meyer. Another influential organization in the International, Section 1 of New York, was the former Lassallean Allgemeine Deutsche Arbeiterverein. The International was quickly infested with cranks of all varieties, but under the skillful guidance of Sorge soon expelled a good part of the American section. The Marxist groups in the International met in Philadelphia during July, 1872, immediately after the expulsion of the American sections, the twenty-five delegates declaring themselves to be in complete harmony with the General Council at The Hague. Although they realized that the time was not ripe for a new political party, they proclaimed that the North American Federation of the International should endeavor "to rescue the working class from the influence and power of all political parties and to show that the existence of all these parties is a crime and a threat against the working class."[33]

In 1872 Sorge was elected a delegate to the Congress of the International at The Hague, from which Bakunin and the anarchists were expelled for disruptive tactics. Marx realized that the International was only a shell of its former self, and decided to remove it to New York, where it would be free from Blanquist and Bakuninist squabbles. Besides, Engels believed that the International, having accomplished its function in Europe, would serve as a means to revolutionize the American working class, if it were removed to the United States.[34]

In the United States, however, there were conflicts between the Lassalleans and the Marxists concerning the strategy to be employed in organizing the working class on a revolutionary basis. Although the Marxists believed that "every class struggle was a political struggle," they realized that the time was not ripe for the immediate formation of a party which should participate in elections.

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33 *Copy-book of the International in North America,* 132-141; Commons, *op. cit.,* vol. 2, p. 214.

34 Stekloff, G. M., *History of the First International* (New York 1928), p. 270.

They held, on the other hand, that the trade union was "the cradle of the labor movement" and that it was the duty of the International Workingmen's Association not only to revolutionize the existing trade unions, but also to help in the organization of new unions. Although the Lassalleans organized labor parties, these proved to be dismal failures, and their lack of success seemed to vindicate the Marxists' position. An effort was made in 1875 to reunite the groups in the International, since the Lassalleans were becoming more sympathetic to trade unionism; in addition the Internationalists hoped to gain control of a labor convention at Pittsburgh, which was to meet on April 17, 1876.[35]

Otto Weydemeyer, an Internationalist, read an address on the first day of the convention, which declared that the goal of the labor movement should be the abolition of wage-slavery and that economic organization must precede political organization. The socialists, however, failed to capture the convention, although they succeeded in passing a Lassallean measure favoring state aid to cooperative societies. Although there was a united front between the socialists and trade union organizations on resolutions which called for the repeal of all laws detrimental to trade unions,[36] the adoption of a greenback platform and a policy of "pressure" upon the existing parties instead of the formation of a new political party, precluded any thoroughgoing cooperation between socialist and trade union wings.

On July 15, 1876, the International Workingmen's Association was dissolved;[37] a few days later, a meeting of socialist and radical organizations was

35 "All organizations having for their object the elevation of labor" were to be invited. Commons, *op. cit.*, vol. 2, p. 235.

36 Such as the "ironclad" and "conspiracy" laws. At that time laws existed which declared trade unions to be conspiratorial organizations and therefore illegal. Certain states made striking on the railroads also illegal.

37 Before dissolving, a congress of delegates from nineteen American sections of the International, adopted the following declaration:

"Fellow Working Men:

"The International convention at Philadelphia has abolished the General Council of the International Workingmen's Association, and the external bond of the organisation exists no more.

" 'The International is dead!' the bourgeoisie of all countries will exclaim, and with ridicule and joy it will point to the proceedings of this convention as documentary proof of the defeat of the labour movement of the world. Let us not be influenced by the cry of our enemies! We have abandoned the organisation of the International for reasons arising from the present political situation in Europe, but as a compensation for it we see the principles of the organisation recognized and defended by the progressive workingmen of the entire civilised world. Let us give our fellow workers in Europe a little time to strengthen their national affairs, and they will surely be in a position to remove the barriers between themselves and the working men of other parts of the world.

"Comrades, you have embraced the principle of the International with heart and love; you will find means to extend the circle of its adherents even without an organisation. You will win new champions who will work for the realisation of the aims of our association. The comrades in America promise you that they will faithfully guard and cherish the acquisitions of the International in this country until more favourable conditions will again bring together

held at Philadelphia to form a new party. The platform of the new party, called the Workingmen's Party of the United States, adopted the trade union policies of the Internationalists, but made a concession to the Lassallean Social Democratic Party by adopting a national instead of an international organization. Despite the Marxists' opposition to the nomination of candidates, permission was granted to the Party to participate in elections. In Milwaukee and Cincinnati moderate success was achieved, but it was not until the autumn of 1877 that the Workingmen's Party could register notable gains.

The Workingmen's Party, although it embraced the opportunity for agitation, had no direct influence in engendering the railroad strikes.[38] The strength of the party among the railroad workers and trade union organizers prior to the strike is difficult to determine. It seems fairly evident, however, that the greenbackers had a much stronger influence among them. The National Executive Committee of the Workingmen's Party was not taken unaware by the strike and immediately ordered "the sections to call mass meetings to offer resolutions for an eight-hour law throughout the Union, for the abolition of all conspiracy laws, and for the purchase by the Federal government of the railway and telegraph lines."[39]

At Cincinnati, on July 21, the Workingmen's Party, which had some strength in the city, called for a united front of "labor against accumulated capital," and appointed a committee to establish contact with the railway workers. The militia proved so friendly to the strikers in the city that the troops were fed by the workers when their supplies were held up. Philip van Patten, Secretary of the Workingmen's Party, guaranteed a peaceful meeting at Chicago, but an assembly of striking cabinet workers was brutally attacked by police, with the result that one was killed and many were wounded. Van Patten and Albert Parsons,[40] his associate, addressed a meeting of 15,000 which adopted resolutions similar to those proposed by the National Executive Committee of the Workingmen's Party. They were arrested after the meeting.

In St. Louis a mass meeting organized by the Workingmen's Party on July 22, passed the following resolutions:

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the working men of all countries to common struggles, and the cry will resound again louder than ever:

" 'Proletarians of all countries, unite!' "

See Internationale Arbeiter-Association, *Verhandlungen der Delegierten-Konferenz zu Philadelphia, 15 July, 1876* (Pamphlet, New York, 1876). Commons, *op. cit.*, 2, p. 222. The declaration was taken from Stekloff, *op. cit.*, pp. 285-286.

38 Schlueter, Hermann. *Die Internationale in Amerika,* Heft 6, p. 383.

39 Commons, *op. cit.*, 2, p. 276. Perlman states that the Workingmen's Party was taken unawares by the strike. Even though the Party did not have much influence among the railroad workers and although it was not responsible for the strikes, party members had predicted strikes on the railroads and were equipped to meet the situation.

40 Parsons was hanged in 1887 for alleged complicity in the Haymarket riots.

"Whereas, the workingmen of the different railroads are rising en masse to demand their just rights.

"Whereas, the United States Government has allied itself on the side of capital and against labor.

"Resolved, that we, the Workingmen's Party of the United States of America heartily sympathize with the employees of all the railroads in the country who are attempting to secure just and equitable reward for their labor.

"Resolved, that we will stand by them in this most righteous struggle of labor against robbery and oppression, through good and evil report, to the end of the struggle."[41]

Later the Party demanded laws guaranteeing the workers the right to live and, in addition, called for a general strike until the constitutional eight-hour day and a law forbidding child labor under fourteen years were granted. The authorities of St. Louis were so panic-stricken that they abandoned control, and an executive committee, in which the Workingmen's Party predominated, found itself in power. The committee, more astonished than pleased with its position, stated immediately that it was not responsible for any attempted violence, and that it would turn over to the authorities all perpetrators of crimes. The executive committee, however, could not cope with the situation; they scarcely realized that they had any power, and made no effort to protect themselves. According to Schlueter, instead of giving directions to the St. Louis workers and establishing contact with the railroad men, they passed ineffectual resolutions and mouthed empty phrases. They were overwhelmed because of their planlessness and lack of perspectives; they did not know what to do.[42] After a week the authorities gained control and prohibited all meetings. The executive committee and other leaders of the workers were arrested;[43] the bourgeoisie rearmed itself quickly and soon had command of the situation.[44]

At New York City, a mass meeting at Tompkins Square was arranged by the Workingmen's Party on July 25 to express sympathy with the strikers. The *World,* before the meeting, interviewed some of the socialist leaders in the city and reported their comments in a quasi-humorous vein. Most of the leaders were reticent; but others stated that they had predicted the riots, and added that it was the duty of the government to house and give work to the unemployed. The New York *Times* and New York *Tribune* opposed granting a permit to the Workingmen's Party to hold a meeting. The *World* advised all workingmen to stay

41 New York *World,* July 23, 1877.

42 Schlueter, *op. cit.,* 6, p. 388.

43 Among those arrested were Lingenau and Currlin, two prominent members of the Workingmen's Party.

44 The St. Louis *Republican* was so perturbed by the occurrences in that city that it stated, "it is wrong to call this a strike; it is a labor revolution." Reprinted in the New York *Sun,* July 26, 1877.

away, since they "have nothing in common with the Internationalists, to whom the confusion of revolution is as the breath of their nostrils," and demanded of the socialists that they should "hire a hall." The *Sun* and *Evening Post,* on the other hand, favored the granting of a permit to the Internationalists.

A huge banner was spread over the speaker's stand at Tompkins Square, bearing the inscription, "Our strength lies in the justice of our demands. Let the workingmen unite." An assembly of 15,000 workers arrived promptly, and awaited, in orderly fashion, the opening of the meeting. The New York *Tribune* stated that the assemblage was composed of criminals and vagabonds, but this opinion was not shared by the *Sun,* which reported that the group was largely one of laborers.

Swinton, a prominent writer for the *Sun,* was the first speaker. He thought that the audience looked almost as respectable as the members of Henry Ward Beecher's Brooklyn church; hoots and groans from the assemblage responded to his name. Beecher had stated in his fashionable church in Brooklyn that a shrinkage of wages was necessary and that wages of $1 a day, in his opinion, were sufficient to support the men and their families if they abstained from smoking and drinking. McDonell, addressing a group of workers a few days later at Cooper Union, remarked that Beecher ought to be put on the same diet; even the *World* advised Beecher not to make such asinine remarks. Swinton praised the militia of West Virginia and Ohio for not firing on the strikers, and protested against the violent means used to suppress the railroad workers. He stated his points clearly: "The object of the strike with which we now and here express our sympathy is not destruction or incendiarism or riot but . . . part of the struggle for existence."

Thompson, a member of the Workingmen's Party, called for the formation of a labor party to present a united front against capital; he called on the assemblage to send a letter to the President, demanding of him that he should be as vigilant in protecting the rights of workers as the rights of capital. Winter, a cigar worker, said, "Liberty in this country means nothing; it only means that a man is at liberty to starve in Tompkins Square or Astor Place." The meeting broke up peacefully.

A few days later a meeting was held at Cooper Union by the Workingmen's Party. Strasser condemned the scabs and chided the workers of the New York Central for accepting a "bribe" of $100,000. McDonell asserted that these railroad strikes of 1877 were the beginning of the second American Revolution in which capitalism would be replaced by socialism; the theory of the harmony of interests between capital and labor was shown to be utter nonsense. He was pleased to see that foreign workers were collecting funds for the railroad strikers.

Although the railroad workers were aided by 40,000 miners on strike, the railroad strike wave began to recede markedly after August 2, 1877. The lack

of effective railroad unions, the weakness of political organization, the want of a carefully mapped-out plan doomed the strike; in almost every important center, the militia or United States army crushed the resistance of the railroad workers and arrested the leaders of the strike. The wage increases, granted by frightened operators, were speedily withdrawn; and in the majority of cases no improvements in wages or conditions took place.

Railroad management saw in the lessons of the strike the need for a stronger repressive apparatus in the state; more and better armories were built, and the militia in various states was centralized. Conspiracy laws against labor organizations were enacted wholesale; nor were the courts slow to follow the cue offered them. The management, in addition, sought out as allies the most highly skilled railroad workers: the engineers. The policy of collaboration with the unions representing the most highly skilled workers on the railroads dates from this time, although in most cases the unions were not immediately recognized.

The strikes, of course, had a tremendous effect on the labor movement. In almost every community the unskilled and unemployed workers were the chief allies of the railroad men; the growing class consciousness of the unskilled workers, resulting from the strike, perhaps explains the remarkable success that the Knights of Labor attained among them. The labor movement, in one stroke, became national.

No previous strike in European or American history was so extensive or so bitterly fought; the militia were in many cases sympathetic with the workers, and middle class elements, to some extent, supported them in their struggle. After the strike wave had begun to ebb, the *Labor Standard* stated that the railroad strikes presented two fundamental lessons to the working class of America: that the workers would rise at a moment's notice to resist wage deflation and capitalist attacks, and that the most imperative need to secure future success was efficient national organization on trade union and political lines.

The growth of the trade unions did not receive an impetus for further development until some time after the strike; unionization, however, was not set back markedly, since the trade unions in many industries had already lost the majority of their members during the depression. The Workingmen's Party, on the other hand, made substantial gains during the fall elections of 1877. In Louisville, Kentucky, five of the seven candidates nominated by the Workingmen's Party for the legislature were successful; in Cincinnati 9,000 votes were polled and 6,000 in Buffalo. At the end of the year 1877, the name of the Workingmen's Party was changed to the Socialist Labor Party; sectarian policies and the upturn in the business cycle, however, soon checked its growth. The Greenback Labor Party polled over 1,000,000 votes during the elections of 1878, and secured many congressional representatives. Thus did the economic organization of the workers give way temporarily to political manifestations.

The Theory of Social Classes: A Logical Analysis

BY ABRAHAM EDEL

One of the major tasks of the philosopher being the examination of the conditions of meaning, it follows that in social matters part of his role will be to analyze the conditions of meaningfulness of propositions asserted in that domain. Thus with regard to the theory of social classes he must analyze propositions in which the term *class* occurs and any other terms frequently found in conjunction with it, for example, *dominant* in the expression *dominant class, important, basic, fundamental* in such assertions as that a certain social division is *the most important, basic or fundamental one*. Two warnings, however, are necessary. First, there is no initial guarantee that these assertions are meaningful; it is the task of philosophic analysis to indicate the types of conditions by satisfying which they are meaningful. Secondly, in so far as the analysis of the meaning of any particular assertion reveals certain assumptions about matters of fact or judgments of value, the philosopher alone cannot determine the truth of the former, nor does he have to hold the latter. If he is a social philosopher he may be interested in identifying himself with a movement or age or group, whose values he will try to make clear and consistent, and so too he may hold opinions on matters of economics, psychology, etc., but he must distinguish these opinions and these values from the logically prior analysis of meaning.

In this paper I propose to attempt such an analysis of the notion of social classes, to consider some alternative analyses, and finally to review at length possible meanings of the term *fundamental* as it occurs in propositions about classes. I have selected the notion of classes as an illustration because of the frequency of its occurrence in propositions about social change, in the explanation of cultural traits, and in the descriptions of particular societies.

I

The logician defines a class as a group of individuals each having certain properties, in virtue of which they are said to be members of the class. Thus, logically all that is required to divide men into classes is to state some property

of differentiation, *e.g.* men are divided into the class blue-eyed and non-blue-eyed; that is, any individual man will either have blue eyes or will not, thereby being a member of one class or of the other. The fundamental division or basis of division may be any characteristic spatial, physical, biological, psychological, social, imaginative or what you will.

In the domain of the social the basis of division may be any social characteristic. The division may be into contradictories or contraries, *e.g.* into Catholics and non-Catholics or into Catholics and Protestants. Empirically in any particular society these may coincide; thus all the non-Catholics in some country might actually be Protestants. We must distinguish the theoretical possibility of a third alternative from the empirical question of whether there is one actualized and the still further question if there is one possible but not one actualized, whether in the special circumstances of that case one could or could not probably develop. Thus New Zealand might have a division into the social classes of Maori and White, if in fact certain social consequences follow from it; but though yellow might be a third possible alternative, rigid immigration laws might prevent its actual development.

A priori any division into classes might have or come to have social consequences in any society, that is, be the basis of different social behavior on the part of men. Jewish parentage in Germany today, color in America, the type of work one engages in Russia, epileptic tendencies among the Chukchee in Siberia, as requisite for shamanship, are the bases of social divisions, in that the people who possess or do not possess these marks behave or are behaved towards differently. Why these marks rather than others become the bases of such divisions is a question for historical and cultural analysis, in which there may be both necessary and accidental elements. An example of a necessary element might be a division on the basis of strength in a militarist society. The necessity, of course, is hypothetical.

In approaching any particular society, therefore, one may discover a mass of such divisions which are found to have social consequences. From this point of view one would tend to say that there are many class divisions, and that the same man might fall in different classes with different fellow members in each. The tradition in social science, however, has been against such a use of the term and for its specialized application; *e.g.* it has at times been fashionable to deny that there are classes in the United States. Some have therefore employed the term *groups* or *groupings* to designate the fact that many social divisions can be made in a society and that the same individuals may not fall together on the same side in them all. The term *class* would then indicate the fact that a great many social divisions resulted in the almost identical set of men falling on the same side in each division. A. F. Bentley in his *Process of Government,* to take one example, presents such a view. "A third line of distinction," he says (p. 304), "has to do

with the extent to which interest groupings are consolidated in different classes in the community. We can use the word class, holding fast to the essential elements of its popular meaning, to describe any set of groupings so consolidated in a particular set of persons as to make that set of persons, as a whole, come into opposition in a great majority of their activities to one or more other classes which are likewise sets of persons, embodying similarly consolidated groupings." And again (p. 440): "Hereditary membership is one of the tests that is used in making such distinctions for special investigations, and the possession of special legal privileges is another test. But even without hereditary affiliation and without formal advantages in law, there may be a solidification of interest in fixed forms such as to justify the use of the general term class, as opposed to the freer groupings out of which class phenomena crystallize themselves." Karl Marx seems to hold a kindred view at times, as when he says (*The Eighteenth Brumaire of Louis Bonaparte,* Engl. trans. p. 133): "In so far as millions of families live in economic circumstances which distinguish their mode of life, their interests and their culture from those of other classes, and make them more or less hostile to other classes, these peasant families form a class. But in so far as the tie between the peasants is merely one of propinquity, and in so far as the identity of their interests has failed to find expression in a community, in a national association, or in a political organization, these peasant families do not form a class." He has, however, added the notion of economic circumstances as distinguishing the mode of life, etc., which must be separately explored.

For the rest who hold such a view of *class,* the emphasis lies upon a set of men who have *a chief or preponderant or most important part* of their social activity similar among themselves and different from and opposed to that of another set. The terms in this account require clarification. By *social activity* is meant any actions which are either social in themselves or have social consequences. *Opposed to* may have broadly two meanings: (1) "Activity A is opposed to activity B" may mean that the occurrence and successful exercise of A interferes directly or indirectly with the occurrence and successful exercise of B. Thus my occupying a specified seat interferes with *your* doing so, and my playing the radio may interfere with your sleeping. More indirectly, the activity of someone in a neighboring apartment may interfere with my activity in writing a philosophical paper, if the walls are thin, though it need not if they were soundproof. (2) If we take *activity* in the fuller sense in which it includes also the ends of the action, then "Activity A is opposed to activity B" may mean that involved in either is a cluster of desires or aims for the sake of which the action is taking place, and that these aims are directly or indirectly thwarted in part or in whole by the other activity. Thus your locking the door would be opposed to my going out of the room, and a merger is likewise opposed to the activity of the employees whose hours and wages will be reduced. More indirectly, A's luxury

would be thought opposed to B's activity as a worker aiming at a good standard of living by one who saw it as the waste of part of a finite total of labor which might have been otherwise devoted; it would not be thought opposed to B's activity by one who argued that luxury provides employment.

It follows in both senses of opposition that the fact that one activity is opposed to another must be shown from any or all of (a) the nature of the activities; (b) the goals or ends or aims of the actors; (c) the empirical circumstances of the system of situations in which the actors find themselves and in which their activities occur. The importance of (c) is seen in cases where a kind of action on the part of one man is opposed to the very same kind of action on the part of another, *e.g.* occupancy of a limited supply of land. Since the activities involved in its occupancy by one man would not include the fact that it was limited, it follows that (a) the nature of the activities abstractly stated is insufficient to determine whether they are opposed.

This is the analysis for the opposition of two activities. How two sets of men can have a chief or preponderant or most important part of their social activities opposed to one another depends of course on the meaning assigned to such terms as *chief or preponderant or most important.* These difficult notions we shall examine soon. Meanwhile for brevity's sake let us agree to call the type of view we have been considering, the *consolidated-groupings* theory.

A second type of theory of classes, at present very prevalent, seems quite different from this, though they are not contradictory and given certain interpretations might, for special cases, coincide. The essence of this theory is the selection of some social relation or activity as the basis of division into classes on the ground that it is more fundamental than other activities or relations or differences. Which basis is selected depends of course upon the opinions of the advocate. St. Augustine distinguished the damned and the saved, whose class or "city" would be manifested no doubt in the morality of their conduct. Occupational bases are frequent, the skilled and the unskilled, the farmer and commercial classes, the city and country folk, etc. Most prominent now is the Marxist emphasis on the objective role that men play in the processes of economic production, crystallized in the opposition of the bourgeoisie and the proletariat. What concerns us here is the meaning any or all of these theories assign to the notion of *fundamental* or *important,* because if they be asked why that particular basis has been selected by them for division into classes rather than any of the other possibilities (*e.g.* in addition to those mentioned, religion, language, nationality, race, sex) the answer will invariably be that in some sense this particular division is more important than the rest. Let us call this type of theory the *importance-selection* theory. It is essentially monistic in this domain, though not necessarily absolutistic. To deny this type of theory would be equivalent to denying that in some context, or some culture, or in general, one division was more fundamental than any other.

Though both the consolidated-groupings theory and the importance-selection theory use such notions as chief or preponderant part, important, fundamental, basic, they do not necessarily mean them in the same sense. In fact the approaches may be distinctly different, and our task for most of the remainder of this paper is to clarify the diverse senses. The consolidated-groupings theory has in mind as the extreme form or ideal type of class division a caste system, in which (to paint the ideal with a free brush) the different castes might have different religions or different roles in the same religion, different languages or dialects, different economic and social roles and privileges, different or specialized cultural sets of interests, different racial or physical characteristics. This would be the case if (hypothetically) one set of men in a country were white, Christian, employers, English-speaking, and the other set were black, pagan, workers, Bantu-speaking. There would be in each a strong sense of its separateness and its internal cohesion. Now classes would be relative approximations to this ideal type, differing in degree. Bentley's definition which we quoted above spoke of coming into opposition "in a great majority of their activities" but our analysis of "opposition of activities" showed some of the difficulties involved, since the types of activity did not even have to be different to get opposition. Obviously, then, according to this theory not mere opposition, but consolidated large-scale opposition lining up diversities in activities of all kinds on opposing sides constitutes a class division. To understand the meaning of "a great majority" or "a chief or preponderant part" becomes therefore all the more imperative. Is it merely numerical? Then there is no evaluation of the components, and variant styles of music will have the same weight as economic differences. How far is the separation of strands to continue? Is art one basis or can it be divided into difference in painting, in sculpture, in music, and so forth. Obviously there is as yet no classification and evaluation of the component parts of social activity sufficiently precise to render adequately the numerical assessment which this theory requires.

There are, however, ways out for the theory. It might reject such attempts and interpret "a major part" as enough diversities lined up to bring about a general hostility, an internal cohesion, and a feeling of separateness. The mark of class division would therefore be the consciousness and action in the consciousness of class division. This is an entirely consistent definition. It need give no general account of what precise factors in a culture or how many would bring this consciousness. This might vary in different epochs and cultures with temperament, sensitivity, social conditions, etc. There might indeed be no general account. Swift's Lilliputians divided on the question whether the egg should be opened at the big end or the little end. Hobbes says somewhere of his own day (and it is true enough of ours) that if there followed different consequences to personal interest from any proposition in Euclid it would be the basis of fiery disputation and struggle. There need be no attempt to predict for all the future and con-

jecture for all the past. Wherever any factors are sufficient by their diversity to develop class consciousness and unity of action classes result.

The consolidated-groupings theory when worked out consistently in this way defines classes in terms of consciousness of mutual interest so that people will act together against others. The psychological phenomenon is clear enough in the nationalism of our day as it is found among the mass of the sincerely patriotic in any country. No doubt the feeling of solidarity and of separateness and the notion of acting as a group themselves requires more careful analysis, but having no space for it here I will take their understanding for granted and leave them in the hands of the social psychologist. It follows from this interpretation of the theory, for instance, that as long as a man feels himself allied with different people for different ends, and acts accordingly, with his employer religiously, his skilled fellow-worker economically, his age group culturally, etc., he is not a member of any one class.

Another interpretation of the consolidated-groupings theory leads in another direction. If one holding it still refuse to treat it as we have done, the only alternative is to propose some mode of evaluation of social activities, so that we should be able to say what constituted "a major part of their activities" to a group of men, if not that about which they had a certain type of feeling and acted in a certain unison. This mode of evaluation need not consist in a fixed classification and universal hierarchy of aspects of social activity. Any single aspect might be differently evaluated in different cultures, but there would have to be some rule of evaluation in each. We would have to know how to tell, even though the people in the group might not feel closely united, that they were really one class, because they had so and so many or such and such interests or activities in common and in opposition to the other group. We should then be able to tell them that they were members of a certain class even if they did not realize it, because our rule would determine the importance of some as against other of their activities, and those would be the unifying activities. This is the only way in which an objective position rather than one emphasizing consciousness of unity and separateness could be worked out on the consolidated-groupings theory. If this were done, however, it is obvious that the emphasis would no longer be on the consolidation of groupings, but on the fact that those special groupings as distinct from the rest were more fundamental, basic or important. The theory would thus differ little from what we called an importance-selection theory, except perhaps in that it stressed two or three rather than one or two social activities or relations. Our next task, therefore, is to examine the notion of fundamental, basic or important in this type of theory, remembering that its essential characteristic is the selection of some social activities as the basis of class distinction because they are declared to be *objectively* fundamental, *i.e.* a man belongs to a certain class whether he is conscious of it or not. On this inter-

pretation too, when it was said that there were no classes in the United States, it was meant that no one social activity was more fundamental than any of a number of others in which people variously engaged, in whatever relevant sense fundamental might here be taken.

I shall try soon to distinguish four different senses of the term. Before that, however, in order that our illustration may be more concrete, let us review briefly a few of the bases of division which different theories call fundamental:

(a) St. Augustine uses the distinction of the elect and the damned; and some of the Protestant schools which later believed in predestination held to the same basis as fundamental for the division of classes. Now since there was obviously no ready access to the deity's selection, the basis on which human beings made the classification was a moral one. The type of conduct which characterized a man acted as evidence of his class, *e.g.* serenity, self-denial, chastity, charity, etc.

(b) Some social scientists have stressed the urban-rural division as a fundamental cleavage in any country. The particular basis on which this distinction is made is variously stated—in terms of numbers, agglomeration, occupation, etc. Thus J. M. Williams in *Our Rural Heritage* seems to begin with rural as meaning agricultural and below a certain density of population. Scott E. W. Bedford in his *Readings in Urban Sociology* says (p. viii), that the term *cities* is to be used in the book as centers of population of more than 100,000. One of the selected readings (from Adna F. Weber's *The Growth of Cities in the 19th Century*) discusses methods of definition, rejects agglomeration by itself as a suitable basis of distinction, and settles finally on numbers. A subsequent selection (from Frederic C. Howe's *The City, the Hope of Democracy*) distinguishes an urban aggregation from a city. A world's fair is not a city; there must be united purpose and a definite ideal: "when in addition to self-consciousness and family-consciousness there arises a city-consciousness, that instinct which is willingness to struggle for the common weal, and suffer for the common woe—then, and not until then does the city spring into life." Others also object to the ordinary distinction in terms of number. Dwight Sanderson, in *The Rural Community,* suggests that to be of sociological value it must be qualitative rather than quantitative since "a mining or industrial village is more urban than rural." This remark obviously uses *rural* and *urban* in a different sense, but it is not made precisely clear what sense. The reason is, perhaps, that Professor Sanderson is more concerned with the meaning of *community,* which is the genus within which the distinction takes place. His mode of treatment, a survey of varieties of communities (*e.g.* hunting, agricultural, types of village both primitive and modern), implicitly suggests that there need be no single universal basis of distinction. It may be best, in each country, to select that definition of rurality which most appropriately describes the concrete distinctions therein existing.

Let us look, as a final sample, at Sorokin and Zimmerman's full treatment in

Principles of Rural-Urban Sociology. They suggest (p. 14) that a definition in terms of several traits is required, not any traits but causally connected ones. The truth is, however, that if they are causally related, there is no need to put them all in the definition, since the remaining marks can be found present when one is present. The authors are, however, under the influence of Weber's "typological method," and say "we need to construct a type of urban and rural community," and turn to "a description of the differential characteristics of the urban and rural community whose totality gives the type of each of these social aggregates." They find these differences in occupation, predominance of and directness of relationship to nature, size of community, density and homogeneity of population, social differentiation and stratification, mobility, and varieties and character of social contacts. Yet though this is supposed to be distinguishing "rurality" and "urbanity" we find such remarks as "urbanity and size of community are positively correlated," "urbanity and heterogeneity are positively correlated," etc., as if urbanity already had an independent meaning. Their conception is made clear when they say, after their summary: "The fundamental characteristics, as has been shown, are all causally connected, or interrelated. As soon as one takes the agricultural occupation and the people engaged in it, he finds the other differences enumerated. The first 'variable,' so to speak, carries the rest with it." Thus they are really using occupation as the basis of division, and cluster or type is only a name for the field of investigation.

Logically the point is a very simple one. Whichever basis of division the social scientist may be using, he must first make clear and very determinate what he is talking about, by what characteristics he is defining. Then he may look for other traits that are found conjointly with these. He may accordingly begin with any definition he likes, for the definition is only the beginning, and no special sanctity attaches to it. If, however, after his inquiry he comes to think the division which he defines to be fundamental, he must then explain what he means by fundamental.

(c) The most important candidate for a basis of class division is Marx's distinction of men in society by the objective role they play in the processes of production. In present society the distinction is phrased as one between the proletariat and the bourgeoisie, that is, between the men who having no property support themselves by offering for hire their labor power, and those who owning the instruments of production hire the labor power of others. The question becomes more involved because Marx asserts that the worker who sells his labor power does not get full value in return, but produces surplus value for which he is unpaid. If therefore we take the distinction in this form, it is between those who receive the full value of their labor, those who receive more and those who receive less. The implication would be that the first class is almost an empty one, *e.g.* the producer who produces for his own consumption with his own tools.

It is encumbent upon a man affirming this distinction to offer a standard of value, and to show how it could be determined for any individual whether he receives the full value of his labor power, less or more. Even then the usual subtleties arise. What of the workingman who has shares in some other company? May not his resulting income equal the value of his labor power? What of the businessman who suffers a loss for some years? Or again, what of the unemployed who having no jobs do not labor, and so, if there is a "dole," get more than what they have labored for during that time? Such objections make it clear that the basis of division may perhaps best be expressed as we did first, as between those who own the instruments of production and those who can support themselves only by selling their labor power. Let us call these capitalists and proletarians respectively. The further propositions of which we spoke would then have to be proved empirically for any society. *viz.* that the capitalists on the whole get more than the value of their labor, the proletarians less. There would still, however, be the class of people who both labored and had shares in companies owning the instruments of production. It is not necessary for the Marxist division to apportion this class by some revised principle of division. It may recognize it and then go on, as it in fact does, to describe its role.

Further complications have been introduced, according to some, by the separation, in the development of the modern corporation, of management and ownership, so that the owners dispersed have little control over their property. This might perhaps affect some of the assertions the Marxists make about classes; *e.g.* it might involve interpreting the theory of the concentration of capital as one of the concentration of power. The precise locus of power would have to be determined empirically in each society. It need not be associated universally with any one form; *e.g.* it may go with land in one community, money in another, practical control of quasi-public corporations in a third, etc. The basis of the division into classes would not, however, be altered. The question which faces the Marxist, as it faces all others who hold an "importance-selection" theory, is to explain the sense in which he thinks his division fundamental.

II

Having illustrated some of the types of "fundamental" divisions into classes (though only a few of those suggested) we may now proceed to the examination of the various senses in which one basis of division is called more important, basic, fundamental, than any other. We shall distinguish four senses, and in illustration pay more special attention to the economic theory.

(1) The first is a psychological sense which refers the judgment of importance to the strength of motives. Thus the division into the elect and the damned would be called most important or fundamental in this sense, if most

men's desires to be saved or to behave morally were stronger than any of their other desires. For mankind at large it would be the fundamental division if men's motives of this sort were stronger than any of their other motives. The urban-rural division might follow this sense of fundamental by attributing different sets of desires to each class, *e.g.* desire for change in the one and stability in the other, and arguing that these desires in each were stronger than any others. Or again it may not mean this sense of fundamental. In the literature on the materialist conception of history Marxism has frequently been taken to be a doctrine asserting that an economic motive is stronger than any other, and though one finds scant justification for this in Marx, it has no doubt been asserted by some and is a widely prevalent popular interpretation of what historical materialism means. To take one illustration, Professor A. J. Todd in his well-known book *Theories of Social Progress* argues as follows (p. 227): "Why does the savage spend months decorating his spear or shield or pottery? Why does the college professor or pure scientist work year after year at a far lower wage than he could command in other work? Why does the preacher or the social worker or the Salvation Army undergo deprivations and insult for the sake of men's souls and a cleaner, better world? Why does a vigorous, independent, prosperous woman leave her economic independence to marry and suffer the pangs of maternity and the pinch of limited income? What prompted that famous group of young doctors to submit themselves to mosquito fever tests? . . . Is progress in medicine due to the economic motive, to a desire for higher fees, to a desire to conserve human life because of a reverence for life or because of a sense of the economic value of life and labor power? Granting the presence of a dose of the economic in these cases, it is perfectly obvious to an open mind that it is completely outweighed by devotion to science, passion for life, love of men." Obviously Todd is here taking the materialist conception of history to be that the economic motive is either sole cause or chief cause of human action, that whenever a man does some self-sacrificing deed or is devout or devoted to art, or in love, a further analysis would reveal an underlying motivation for personal economic interest.

We need not dwell too long on this first sense of the term "fundamental." As presented in all these cases it is quite meaningless, simply because no operations are indicated by which we can compare the strength of motives and judge the sole efficacy or superpotency of one. We have no means of determining the strength of the desire to be saved, to achieve stability, to gain economically, etc. With regard to an individual's single act we may pose alternative courses of behavior, saying for instance when he is offered two jobs one giving opportunity for research at a low salary, the other merely time-consuming but at a high salary, that if he choose the former, the economic motive is less strong in him than his love of science. But even for an individual over a long span we have little means of judging or weighting his acts. How much more difficult is it for a

general comparism of two motives in a society? How impossible to speak for all mankind at one time? How meaningless for all mankind for all time?

Perhaps it is easiest in the case of a single institution such as a bank or a stock exchange, where the motives in question are standardized, but even here it is precarious if we take a complicated institution like a college. Again, judgment might be passed on the relative frequency of the occurrence of certain pursuits in certain cultures, and (by inference) on the prevalence of some very specific motives, *e.g.* the desire to be president, to raise wages, to promote a certain church or belief. But it does not hold of such very general motives as economic, religious, moral, etc. Broadly speaking, greater precision in the defining operations is achieved to the extent that a "mentalistic" interpretation of motive yields to one in terms of modes of behavior and discoverable order in conduct. Differences such as that between aiming at material gain and aiming at gain to further other ends become expressed as different patterns in conduct. Explanation of some such patterns in terms of others is then offered. This approximates what we shall examine as the fourth sense of fundamental, or, more accurately, becomes a special case of it.

(2) A second sense of *fundamental* is suggested by Sidney Hook in the chapter on the "Class Struggle and Social Psychology" of his book *Towards the Understanding of Karl Marx.* It is not the only sense that he employs throughout, but is emphasized in the formal part of this chapter. He approaches the matter gradually, having phrased the problem as why economic classes are fundamental as distinguished from differences of interest among capitalists, or religious or racial differences. Antagonisms among groups of capitalists are not class antagonisms, firstly, because they can be ironed out by mergers, etc., whereas the worker-capitalist antagonism is constant; secondly, because all employers have a common interest against all workers in that lower wages mean higher profits; thirdly, because oppositions between different vocational groups in capitalist society are not exploitation of one group by another. The last is an ambiguous point depending upon the precise meaning of exploitation. But his general argument is made clear when he says, "For class oppositions cannot be resolved without changing the structure of society, whereas the other social oppositions are continually being resolved within the unaffected framework of the capitalist mode of production." (p. 234) That is, the test of a *fundamental* social division is the difficulty of eradicating it, that is, the eradication of its consequences requires a change in the structure of society. In this case, unfortunately, there lurks an ambiguity in the term "social structure." If it means the mode of production, the very aim of socialism is to retain it and yet get rid of class antagonism. If it means the mode of control and distribution, it leads to tautology, since this was the basis on which the economic division into classes was made, so that the assertion would be in effect that class oppositions cannot be resolved without getting rid of class op-

position. Or, finally, if it means that the empirically discoverable consequences of the economic division cannot be eradicated without eliminating the economic division, this does not justify asserting that a change in the structure of society is involved, without identifying social structure and the economic division, which if merely assumed would beg the question at issue.

The proof of this claim would lie in showing the economic division to be more fundamental than the political, religious, etc., thus entitling it to be deemed social structure. *Fundamental* might again be taken as *most difficult of eradication.* This, if it could be roughly estimated, would constitute a possible meaning of the term. I do not believe, however, that it would be an ultimate sense. For, on the one hand, the division may be merely the most difficult of the ones that you *want* to eradicate, and this would involve reference to your values, thus giving an ethical interpretation of the concept, which we shall discuss as its third sense. On the other hand, if the ethical reference be eliminated, we would be left in the following situation. *All* proposed social divisions would have to be examined in an attempt to see which is most difficult of eradication. Standards of difficulty would have to be elaborated and then the contenders for the proposed *fundamental* character would have to be empirically tested—racial differences, religious differences, age differences, sex differences, etc. It must be remembered that we are not necessarily referring to age and sex, but to any *social* differentiation which may have been standardized on the basis of the age or sex distinction. Thus we might not be estimating the difficulty of eliminating the difference between city and country in the sense of evening out population, but of getting rid of the attitudes and social traits which had become differentially attached to this distinction. Or again we might actually be concerned with the first. In either case the special concern will be with the breadth of social behavior attached as consequence to the division in question. We shall elaborate this as a fourth sense of *fundamental.* The interpretation in terms of difficulty of eradication, we must conclude, resolves itself into either our third or our fourth sense, or both.

(3) The third meaning of "fundamental" has, as we have suggested, an ethical preference in its character. It amounts to this: that division is fundamental which is pivotal for securing what you really want or value. This may best be illustrated in the kind of argument which Marxists sometimes use to convince intellectuals and members of the lower middle class that they belong in the working class whether they realize it or not. Marx and Engels expressed it in the *Communist Manifesto* when they said: "The lower middle class, the small manufacturer, the shopkeeper, the artisan, the peasant, all these fight against the bourgeoisie, to save from extinction their existence as fractions of the middle class. They are therefore not revolutionary but conservative. Nay, more; they are reactionary, for they try to roll back the wheel of history. If by chance they are revolutionary, they are so only in view of their impending transfer into the proletariat; they thus

defend not their present, but their future interests; they desert their own standpoint to place themselves at that of the proletariat." More simply it is this: the Marxist asks X, "What do you want of your society?" and receives as an answer a general set of values such as a secure job, certain types of rights and opportunities. Then he argues that given the present system of control and distribution and the class division on this as basis, there will be progressively less achievement by X of his values, that the instrumentalities on which he relies (*e.g.* a small savings account, a stable job, a few investments) will in the development of now existent forces be swept away, and that by stressing all other divisions, (*e.g.* national, racial, religious, skilled-unskilled, sexual), no stable solution will be discovered and that only by stressing the economic division so as to override all the others in securing a class unity will he be able to achieve abidingly his own values. The analysis of the proposition, "The economic division is the most fundamental," therefore becomes: (a) Most men have certain values v_1 v_2 v_2 (either uniformly or with diversity) and in respect to those it is true that (b) the present arrangement of forces is such that these values are not likely to be abidingly achieved, (c) the attempt to achieve them by stressing other bases of division is not likely to succeed, and (d) the attempt to achieve them by stressing the economic basis of division into classes is likely to succeed.

These four objective conditions constitute a meaning of the notion *fundamental.* Whether in this sense the economic division turn out to be fundamental is now a matter of empirical investigation for social scientists. There can be no a priori answer. Thus with regard to (a) if most men in a society do actually want security, and certain opportunities of education, self-expression, etc., then we must go on to examine the truth of the remaining proposition with respect to these values. Likewise if, to take a hypothetical example, most men were to say in any society that what they valued above all, even above life or security, etc., was to obey explicitly the representatives of their religion, then we would have again to ask whether for this value of v_1 v_2 v_3, (b), (c) and (d) remained true; (b) involves assumptions about the present-day economic system, the habits of men in our society, (c) about, for example, international politics and economics, that exploitation of fresh markets cannot continue for very long, that international rivalry will have certain consequences, (d) that men will be able to break habits which have kept them apart, *e. g.* religious, racial or sex oppositions. All these assumptions, the evidence for which lies in the fields of economics, psychology, history, anthropology, physiology, politics, etc., must be examined independently for their truth-value. Upon them depends the assessment of the probability that the economic division is the fundamental one. But what is meant by calling it fundamental, *i.e.* the conditions satisfying which the proposition will be true and failing to satisfy which it will be false, is discovered by its philosophic analysis. These conditions constitute its meaning.

(4) The fourth sense of fundamental is a scientific one. To call one division more fundamental is to suggest that it is a more fruitful hypothesis for explanation in diverse fields of social behavior. The meaning of a more fruitful hypothesis is not at issue; it is identical with what logicians call a systematically simpler hypothesis, one which unifies a great many facts which are then seen to be special cases of it under special circumstances. Thus those who stress the importance of the urban-rural distinction in this sense mean that family cohesion or dissolution, strong or weak control of parents over children, stability or instability of moral standards, a varying ability in performance tests in the factors of speed and accuracy may all be seen as special consequences under special conditions of compact or scattered population or of diversity of occupation. In this sense, Sorokin and Zimmerman after defining a social class as "the totality of individuals whose occupational, economic and socio-political status (rights, and privileges, duties and disfranchisements) are closely similar," go on to say (p. 61): "Man's economic, occupational, and socio-political positions practically are responsible for the most of the traits of his 'acquired' personality. Directly or indirectly three-quarters of such traits as education, manners, customs, beliefs, tastes, convictions, ideas, traditions and so on, are decisively determined by these three statuses." We are not concerned with the truth of this hypothesis, but with the way in which it would be tested. This is: (a) it would have to show that the facts to be explained are really deducible as necessary or probably consequences of it—in this deduction there might be added assumptions which would have to be established if questioned; (b) it would have to show that its hypothesis explains these results more simply than any proposed alternatives—it should try if possible to predict, in which it must again show that the prediction follows from it and is not attached in an arbitrary fashion, as I might predict from the fact that the sun was shining when I wrote this paper, that you are enjoying reading it.

The economic division into classes is by its propounders frequently called more fundamental in this sense, and the attempt is made to show both of the past and at present that particular stresses in particular situations are explicable as special cases of this type of class opposition. In its more extreme forms it is sometimes said to *explain* the character of any social behavior at any time and it is phrased as the cultural character reflecting its economic substructure. Its more careful advocates urge it as an explanation of why at particular times certain ideas, attitudes, inventions, religions, spread widely or fail to advance. Thus Dutt in his work on *Fascism and Social Revolution* points to present widespread social phenomena, the depression in the economic realm, the revolt against the machine in discussions of technology and even in many edicts putting men to work with hand-labor; the destruction of productive forces; in politics, a revolt against democracy; in the international field, a stress on national self-sufficiency; in intellectual matters, a growing mysticism and an attack on the basis of science

as the most reliable means of securing knowledge; and so forth. Now hypotheses might be advanced to explain these independently, *e.g.* diplomatic relations as personality questions in the international field; a weariness with disputation in politics; a periodic swing from rationalism to mysticism in culture, etc. Dutt suggests instead that all these phenomena are special instances of the opposition between capitalists and workers under the special conditions of an economic system that is breaking down and a working class that is developing a consciousness of unity. He does not maintain that these conditions are a cause of national feeling, mysticism, etc. These are in some fashion or other always to be found. What he attempts to show is that under present conditions they are utilized as instruments in a struggle and consciously or unconsciously fostered and spread in the struggle.

A priori there is no reason to bar any trait from acquiring any social function. Even false biological theories may, as in Germany now, be the ostensible bases of different treatment. The presence or absence of an Oxford or Harvard accent may likewise act as evidence to open or shut certain paths of social opportunity. The interrelationships of social traits is in any particular age an empirical question. The sense of fundamental we are now considering is therefore the suggestion that a certain division into classes will be found to be a fruitful hypothesis explaining a great variety of the interrelationships of social traits in any, or many, cultures. That is its meaning; the truth or falsity of any particular hypothesis can be verified only empirically by showing that it does or does not satisfy the conditions indicated.

Of course the task of actually performing this kind of investigation in the domain of social behavior is no easy one. For example, the explicandum is not always clear, and two theories which may conflict when stated abstractly may become complementary when it is seen that they are referring to different realms. One may turn out to be dealing with a more pervasive aspect, the other with a special field. Fruitfulness in the hypothesis will have to be interpreted (less strictly than in physics) as suggesting a mode of analysis probably applicable over a wide range. It might also be possible to work out a hierarchy of such leading principles for more general and more limited domains, and likewise for the connection of domains. And finally, the historical and temporal nature of the material must be kept firmly in mind, to avoid such confusions as the assertion that a certain class division denies its fundamental character by offering the means of predicting accurately the conditions under which it subsequently ceases to apply. For this would be part proof, not refutation of its fundamentalness in the period in which it was most important.

We may summarize roughly the results of our inquiry. A great deal of confusion arises because the notion of classes in society is ambiguously employed. Apparently contradictory propositions may really be talking about different things. When, therefore, we meet any assertion about classes we must ask for its

precise meaning, and for the precise sense in which the classes are opposed to one another. Very frequently the discussion turns out to be one about the relative *importance* or *fundamentalness* of some basis of division in society. In such cases it may be conducive of clarity to translate the discussion into these terms. Then the precise sense of *importance* must be indicated. We have listed four, but there may be others. When this is done, and the proposition is found meaningful, the philosophic analysis is finished, but the investigation is only begun. The verification is then an empirical matter, since a priori there is no reason why under all conditions there should be classes or not be classes, why one division should be more fundamental than others or should not be. Hence when the meaning is clear and is stated as a set of material propositions the latter must then be tested by the special sciences. What the philosopher accomplishes is the analysis of the problem. Purely as a philosopher he cannot give the answer to the problem, unless it be conceived to be the task of the philosopher also to synthesize the material results of the special sciences. The very least he can do is to prevent people from arguing about meaningless questions or making meaningless assertions and quarreling about them. That there is room for such a role, difficulties about such concepts as class, state, property, etc., adequately demonstrate. To the philosopher this clarity is a value. Whether at any one time it is actually valued or not, and why, is itself a matter for cultural analysis and investigation.

Dialectic and Nature

BY SIDNEY HOOK

THE SOCIAL importance of a philosophy is measured by the number of people who hold it, the practices it is used to justify, and the habits of thought and valuation it leaves in its wake. From this point of view the philosophy of dialectical materialism is easily one of the most important social doctrines of our times. Sometimes the scope of this philosophy is restricted to the realm of social and cultural phenomena; sometimes it is identified with a systematic elaboration of the principles of scientific method; but most often its adherents interpret it as a set of doctrines which describes the fundamental characters of existence in the large as well as in the small, enabling us to formulate laws that operate in nature as well as in human and social activity. An examination, however, of the writings of those who profess to be dialectical materialists in this last sense shows that they are unified more by a community of allegiance than by a community of meaning. This becomes apparent when one seeks a clear answer from them to the questions: "What is dialectic? How is it related to scientific method? What does it mean to say that dialectic is found in nature?"

Aside from the fancied political implications of the doctrine, the sweeping theoretical claims made for it, the insistence that the dialectic is universal, that it is not merely a method of proof but an instrument for winning new truths in the sciences,[1] that it transcends the limitations of formal logic and opens new horizons of research—all warrant the closest analysis. For if these claims are true, then the neglect of this philosophy by natural scientists is nothing short of reprehensible.

The chief sources of the views we are to consider are Engels' *Herrn Eugen Dührings Umwälzung der Wissenschaft,* (all references below are to the 12th ed. Berlin and Stuttgart, 1923) better known as *Anti-Dühring,* and his *Dialektik und Natur* published posthumously in the *Marx-Engels Archiv,* Bd. II,

1 "Es ist schon ein totaler Mangel an Einsicht in die Natur der Dialektik, wenn Herr Dühring sie für ein Instrument des blossen Beweisens hält, wie man etwa die formelle Logik oder die elementare Mathematik beschränkter Weise so auffassen kann. Selbst die formelle Logik ist vor allem Methode zur Auffindung neuer Resultate, zum Fortschreiten vom Bekannten zum Unbekannten, und dasselbe, nur in weit eminenterem Sinne ist die Dialektik. . . . " Engels, *Anti-Dühring,* 12th ed. (1923) pp. 136-7.

edited by D. Riazanov. The philosophical writings of Plekhanov, Kautsky, Lenin, Mehring and the minor figures in the orthodox tradition contain little on these themes not already to be found in Engels.

What I propose to do is, I, to distinguish the various senses of the term "dialectic" in the major writings of Engels; II, to determine whether they are mutually compatible; III, to analyze the so-called universal laws of dialectic and the illustrations offered of each; and IV, to investigate whether there is any sense in which the dialectic can serve as a corrective, supplement or substitute for scientific method.

I

1. For Engels, as for Hegel, the laws of dialectic are both objective and universal. Every field of knowledge, the objects known as well as the processes by which they are known, is subject to their sway. What, indeed, can be more comprehensive than Engels' statement that "the dialectic is nothing more than the science of the general laws of motion and development of nature, human society and thought"? (p. 144) The illustrations offered are drawn from mathematics, physics, chemistry, biology, geology, history and philosophy. Engels does not assert that the knowledge of these laws by itself is sufficient to give mastery over things, for these laws are "unconsciously operative in nature and history" and their discovery in specific situations presupposes the possession of specific knowledge. But whenever man thinks correctly, he thinks dialectically and whenever he controls things he does so only by adapting himself to the dialectic processes implict within them. The failure, however, to take explicit note of these laws probably—and an open disregard of them, necessarily—will lead to error. Like the laws of grammar and correct usage they operate as restrictive conditions. People may speak correctly without a knowledge of the rules of syntax; but for difficult constructions they are a help, and when deliberately flouted soon re-establish their necessity in facilitating communication or make way for new rules. In passing, it should be noticed that the admission that there is undialectical thinking, even as a psychological fact, invalidates the claim made for the universality of dialectic. But we shall return to this later.

It is clear, then, that one important sense of the term dialectic makes it *a constitutive principle in everything,* a pervasive ontological character of anything that is or may be conceived. Therefore, once we have acquired genuine knowledge of any situation we can show that it conforms to the laws of dialectic. But at this point we are confronted by a difficulty. Engels emphatically maintains in defending Marx against Dühring that the former "does not dream of attempting to prove" the historical necessity of capitalist accumulation and decline by the

laws of dialectic. "On the contrary: after he has historically proved that in fact the process has already in part occurred and in part must occur, he characterizes it in addition as a process which develops according to a definite dialectical law" (*op. cit.* p. 136). In other words, the process of proof need not be dialectical. At best the dialectic is one of a number of modes of proof even when the subject matter under investigation is historical. It cannot be true, then, that all thinking —even all valid thinking—is dialectical any more than the fact that I can translate all languages into English establishes the latter as the universal language. Nor can it now be argued that the universal constitutive character of dialectic is demonstrated by the fact that knowledge of anything can be acquired only by employing the dialectic method, for there are at least some things which can be known non-dialectically. The question remains whether and to what extent the dialectic as a method of proof and as a method of discovery is different from non-dialectical methods, and in what situations its application leads to greater truth than other available methods.

2. The most relevant suggestion bearing on this question to be found in Engels' writings is that the dialectic method applies to situations where no hard and fast lines can be drawn, where areas of indetermination, critical phases and twilight zones are present. He contrasts the dialectic here with what he calls metaphysical thinking which postulates the unconditional validity of the principle of excluded middle. But metaphysical thinking, according to Engels, cannot give an accurate analysis of even the simplest forms of motion and is conspicuously incompatible with the evolutionary hypothesis. Two of many passages express this meaning of dialectic with forthright clarity. In *Dialektik und Natur*, speaking of transitions in nature, he writes:

> "For those stages in natural science, where all oppositions are bridged by intermediate steps, the old metaphysical method of thought no longer suffices. The dialectic which recognizes no hard and fast lines, no unconditionally valid either—or!, which transforms fixed metaphysical differences into each other, mediates opposites and puts at the correct place besides the either-or! the this-as-well-as-that! (*Sowohl dies—wie jenes!*) is the only method of thought eminently suited to such situations. For daily use, for scientific retail, the metaphysical catagories retain their validity." (*op. cit.* p. 189)

In the *Anti-Dühring,* Engels generalizes his criticism and calls the whole of modern science to the bar of dialectic to hear an indictment of its metaphysical character:

> "It is, however, precisely the polar oppositions that are set forth as irreconcilable and insoluble, the arbitrarily imposed fixed lines of distinction and differences between classes which have given modern theoretical natural science its limited metaphysical character. The knowledge that these oppositions and differences are indeed present in nature but only with relative

> validity and that their conceived rigidity and absolute validity is introduced into nature only by our reflective activity—this knowledge is the kernel of the dialectical conception of nature." (p. XIX)

Here again certain crucial difficulties emerge. Either the whole of nature and experience is in a fluid state or the dialectic is not universal. If nothing that exists is *in any respect* sharply demarcated from something else, then the abstractions employed in scientific analysis which presuppose some such demarcation, must be regarded as convenient fictions. In that case, the fruitfulness of one set of fictions rather than another would be a mystery. But if all thought, as Engels continually asserts, is a mirror or image of reality, the recognition of the existence and operative efficacy of fictions necessitates a modification of his theory of knowledge. More important still, the ontological assumption behind the claim that every *entweder—oder* must be modified by a *sowohl dies—wie jenes* entails the belief that in any situation where a disjunction is employed, a third real or grounded possibility is *always* to be found. Empirically there is no warrant for such a sweeping generalization, and in fact it is flatly inconsistent with the Marxist theory of history according to which at certain historic periods society is confronted by only two possible alternatives. Time and again Engels denied that there was a genuine third alternative in modern times to socialism and capitalism. Those of his followers for whom the slogans socialism or barbarism, democracy or fascism, are not mere rhetoric, cannot square a reasoned defence of the antitheses drawn with an acceptance of the *universal relevance* of the logic of *sowohl dies—wie jenes*.[2] But of course all things are possible by a systematic abuse of definitions.

3. Interestingly enough, Engels' own political experience, combined with his stress upon the facts of polarity, leads him on occasion to speak of dialectical situations as if they were preeminently characterized by the logic of exclusive and exhaustive disjunction. (The identification of polar opposition and dialectic we shall discuss below.) In a passage which begins by stating that "the so-called objective dialectic" obtains for the whole of nature, and that "the so-called subjective dialectic" is merely the reflection of the "movement of opposites" everywhere valid in nature, Engels writes:

> "It is in history that the movement of opposites really comes to the fore in all the critical epochs of the leading nations. At such moments a nation has a choice only between two horns of a dilemma: either—or. And indeed the question is always posed quite differently from the way in which the political philistindom of all times wishes to pose it. Even the liberal German philistines of 1848 found themselves in 1849 suddenly and unexpectedly

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2 cf. Lenin. "Auf der historischen Stufenleiter zwischen dieser Stufe (monopoly capitalism—S. H.) und derjenigen, die man Sozialismus nennt keine *Zwischenstufen* gibt." ("Die drohende Katastrophe und wie soll man sie bekämpfen," *Sämtliche Werke,* Bd. XXI, p. 235.)

> and against their own will faced by the question: either a return to the old reaction in intensified form or progress of the revolution to a republic. . . . Likewise the French bourgeoisie stood before the certainly unexpected dilemma: either caricature of imperial rule, Praetorianism and the exploitation of France by a pack of scoundrels (*Lumpenbande*) or a social-democratic republic." (*Dialektik und Natur, loc. cit.*, p. 190)

It is clear that it is precisely in such situations that the liberals, of whose undialectical approach Engels speaks so scornfully, seek for third alternatives, intermediate paths, and formulae which attempt to reconcile the irreconcilable. Such a quest, according to the present sense of dialectic, is branded undialectical even though it invokes the logic of continuity and inveighs against hard and fast lines. But what, now, shall we say of nature in which Engels has assured us no hard and fast lines occur? It is certainly not dialectical in the present sense. In an attempt to escape this obvious difficulty it is sometimes held that the dialectic expresses *both* the logic of continuity (*sowohl dies—wie jenes*) and that of discontinuity (*entweder—oder*). Nature and history provide situations in which the two approaches are legitimate. Granted. But even so they are not both applicable at the same time, in the same respect, and from the same point of view. Since both cannot be universally applicable, when is the *either-or* aspect of the dialectic to be employed and when *the-this-as-well-as-that?* No matter what answer is made it will entail the recognition that recourse must be had to other methodological considerations in order to determine when it is legitimate to apply the narrow form of the principle of excluded middle and when it is not. These considerations, of course, are derived from the logic of scientific inquiry whose task it is to determine whether the material under investigation is such that various formal rules may be significantly applied. Later on we shall see that there is a sense of dialectic which makes it equivalent to scientific method but we shall also see that it is highly dubious whether any science can achieve significant results by denying the principle of excluded middle. Some dialectical materialists are under the strange delusion that a trichotomy such as "either *a* or *b* or *both*" represents a violation of the law of excluded middle. This would be the case only if *b* were the formal contradictory of *a* in which case it is simply nonsense to say that they are both true. Sometimes we find ourselves in a position in which we seem to be saying that neither *a* nor its contradictory is true, as *e.g.* "the soul weighs more than a gram" and "the soul does not weigh more than a gram," but all such statements are pseudo-propositions. They involve a confusion of categories and are meaningless.

4. Another sense of the term dialectic gives it the meaning of *polarity* and *polar opposition*. For Engels the sources of this conception are to be found in Hegel's doctrine of Essence. Physical phenomena are cited as the most striking illustration of polarity and provide the basic analogy in this respect for all other

fields. "Just as electricity and magnetism polarize themselves, move in opposites, so do thoughts." (*Ibid,* p. 156). In other passages he traces its presence in chemistry, biology and psychology. Nowhere is an analysis given of the logical structure of polarity so that it is difficult to tell whether Engels is using the concept of polarity metaphorically or whether he actually believes that thoughts, for example, polarize themselves like magnets, which is comparable to saying that the concept of weight itself has weight.

The clearest meaning that can be given to the statement that polarity is universal in nature and history derives from some linguistic principle of significant assertion. Every term which enters significantly into discourse must have an intelligible opposite. This is not an arbitrary rule of language but flows from the fact, recognized both by Hegel and Engels, that everything can be surveyed from at least two different aspects and that the existence of anything involves the existence of at least some one *other* thing. But even so, this by no means justifies the deduction that the other, from which an aspect or thing is distinguished, is *polar* in character, that it necessitates, and is necessitated by, the existence of its opposite. The "poles" of a magnet are such not because the two ends are merely *different* from each other. The two ends still remain different even when demagnetization has taken place. But the polarity is gone. Materially interpreted, either polar opposition means no more than that there are differences in nature, which is true but trivial since it is the kind, quality and degree of difference that are scientifically important; or polar opposition is not at all a universal phenomenon but must be empirically established, once its structure is clearly defined, in various fields and situations.

It must be further indicated that the structure of the polar opposition in magnetism is quite different from the structure of the polar opposition between male and female, arithmetical plus and minus, heredity and environment (the illustration is Engels'), and bourgeoisie and proletariat. The expression is systematically ambiguous and is of no help in any concrete inquiry which seeks to discover how various elements within a situation are functionally related to each other.

5. A more special sense of the term dialectic in Engels makes it relevant primarily to the development of concepts. This converts the dialectic into a constitutive principle not of everything but of a determinate realm of existence—the realm of mind. The growth of knowledge, individual and social, is often cited as an illustration of the dialectic process in this sense. Sometimes such statements are accompanied by the remark that the growth of knowledge actually reflects or mirrors the changes and evolution in the subject matter known, from which it would follow that the order of the development of knowledge is the same as the order of the objective development of things. The latter proposition, already explicitly drawn by Hegel, is palpably false and is compatible only with some

form of philosophical idealism.

When Engels refers to dialectic as the structure of the thought process, it is to contrast it with other modes of thinking. Man shares with the animals, he tells us, all the activities of the understanding—induction, deduction, abstraction, analysis, synthesis and experimentation.[3] In these respects there is no essential difference between man and the animals except in degree. "On the other hand dialectical thinking is possible only for man just because it has as its presupposition the investigation of the nature of concepts themselves" (*op. cit.*, p. 187). It seems, then, that the nature of concepts is the privileged subject matter of dialectic, and further, that all the activities of the understanding enumerated above, which constitute far and away the larger portion of thought, can be carried on without an "investigation of the nature of concepts"—an interesting doctrine if true.

This clearly seems to restrict dialectic to a method of analyzing concepts although previously it had been characterized as a method of proof and a method of discovery—activities which, according to Engels, man shares with animals incapable of dialectic thought. And even as a method of analysis, Engels does not hesitate to contrast it with mathematical thought. He prefaces some remarks on work as the measure of motion with the observation that "perhaps it will be seen that when it is a question of handling ideas, dialectical thinking at the very least carries one just as far as mathematical calculation" (*op. cit.*, p. 307). The "perhaps," or course, turns out to be purely rhetorical.

Now conceptual thought may be "analyzed" from at least three different points of view. (i) Inquiry may be made into the natural history of ideas, the structure and function of the thought processes out of which they arise—all of which is roughly classified under psychology. Or (ii) the formal relationships between ideas may be investigated so as to disclose whether the systematic pattern of meanings (propositions, statements) involved is consistent—formal and symbolic logic. Or (iii) the relationships between things, symbols, and human behavior may be analyzed in order to show how normative principles of thought arise and operate in inquiry. It is difficult to determine whether Engels' statement that formal logic and dialectic is "the science of thought and its laws" refers to any one of these aspects of thoughts or to all three.[4] If the dialectic is a description of the ways in which human beings actually think, then all thinking, good,

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3 "Alle Verstandstätigkeit: *Induzieren, Deduzieren,* also auch *Abstrahieren* . . . Analysieren unbekannter Gegenstände (schon das Zerbrechen einer Nuss ist Anfang der Analyse), *Synthesieren* (bei tierischen Schlauheitsstückchen) und als Vereinigung beider *Experimentieren* (bei neuen Hindernissen und in fremden Lagen) haben wir mit dem Tier gemein." *Natur und Dialektik, loc. cit.*, p. 187.

4 "Was von der ganzen bisherigen Philosophie dann noch selbständig bestehen bleibt ist die Lehre vom Denken und seinen Gesetzen—die formelle Logik und die Dialektik. *Anti-Dühring,* p. 11.

bad or indifferent, is dialectical, and as pure descriptive psychology it has little bearing upon the laws of *valid* proof or discovery. If dialectic is not concerned with psychology and sets itself up as a theory of consistent and valid thinking in all fields, then since it has been granted that some people think undialectically and yet not always incorrectly, then the dialectic is universal neither as fact nor norm. The third possible approach to thinking, so far as I know, has not been identified with the dialectic by any canonic interpreter nor has any theory of the nature of signs and symbols been developed.

6. Another meaning attached to the term dialectic in the writings of Engels is asserted to have great heuristic value. The dialectic approach to nature and history recognizes that all things are organically interrelated in one great totality. No object, therefore, can be exhaustively explained in its own specific categories. The totality is such that all of its elements are in continuous interaction with each other so that cause and effect are abstracted, partial phases of an interlocking, developing whole. What is often called "dialectical" interrelation between part and part, and whole and part, is universal and necessary. Many passages can be cited from Engels' writings which imply this view:

> "We also find upon closer examination that the both poles of an opposition, like positive and negative, are as inseparable from each other as they are opposed, and that despite their opposition interpenetrate each other. In the same way, cause and effect are ideas that have validity only when applied to the particular case as such but just as soon as we consider the individual event in its universal connection with the world as a whole are dissolved in the conception of a universal, reciprocal interaction (*Wechselwirkung*) in which causes and effects continually change places, and what now or here is effect becomes there or then cause and *vice versa*." (*Anti-Dühring,* pp. 7-8)[5]

Now the statement "all things are interrelated" is, as such, ambiguous unless it is indicated *how* they are interrelated, or at the very least, what *kind* of interrelation is meant. To say that things are "dialectically" interrelated introduces the conceptions of necessity and systematic connection but still leaves open the question whether they are physically interrelated or logically interrelated. On Engels' view, however, since logical relations are reflections of relations which exist in the natural world, there is no essential difference between causal determination and logical determination. As in Hegel, where a distinction is recognized it turns out to be merely epistemic.

This conception of universal dialectical interrelation is the fountainhead of Engels' monism and is defended by a number of logical and empirical considerations scattered throughout Engels' writings. The logical arguments are all variants

5 Cf. also, *Dialektik und Natur,* p. 219; *Ludwig Feuerbach,* Duncker Ausgabe, p. 54; letters to Bloch, Starkenberg, and Mehring *passim* reprinted in appendix to *Towards the Understanding of Karl Marx,* New York, 1933.

of the Hegelian theory of internal relations. The ascription of any property or relation to a term presupposes the existence of another term. Every term is a congeries of an infinite set of relations all of which are necessary to its nature. Strictly speaking, then, it is impossible to deny that a term has any of its determinate properties without lapsing into self-contradiction. As a matter of fact, however, it is possible meaningfully to deny that a term is characterized by any of its properties or relations except when the latter are part of the *definition* of the term. But if all the relationships into which a thing can possibly enter are already involved in its definition, it would follow that all propositions of fact are analytic, which is clearly false. The influence of the notion of universal, "dialectical interrelation" is also revealed in the curious reluctance on the part of orthodox Hegelians and dialectical materialists to admit that hypotheticals contrary to fact, *i.e.* judgments which take the form *"if* a thing or event had been different from what it was," are meaningful assumptions in science or history.

The empirical argument for the dialectical interrelatedness of everything is buttressed by the citation of many instances in which the growth of knowledge has led to the modification of earlier views held, to the redefinition of concepts, and to the discovery of unifying principles between apparently disparate fields. But it is or should be obvious that the empirical evidence in the nature of the case has to be piecemeal and cannot serve as the premise for a deduction that any new piece of knowledge must *necessarily* lead to the abandonment or modification of the old.

7. There remains, finally, the conception of dialectic which makes it equivalent to scientific method. Although there is little direct statement of this interpretation, suggestions and intimations abound in Engels' discussions. On occasions the critical rôle of hypotheses is recognized, admission is made of the existence of relatively isolated systems, and the methodological inadequacy of physical and biological "reductionism" is very forcibly stated. In many passages stress is placed upon the relative (and relational), historical and contextual character of judgment, including scientific propositions, and some of Engels' formulations, despite his crude theory of abstraction, would give comfort even to contemporary positivism.[6] When Engels criticizes the excesses of empiricists, it is in order to call attention either to their neglect of hypotheses or their failure to introduce the proper controls in experiment without which observations have no evidential value.[7] A typical passage of this strain in Engels' thought is the following:

"The form of development of natural science insofar as it is reflective is

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6 Cf. especially *Dialektik und Natur, loc. cit.*, p. 237.

7 *E.g.* in his remarks on Wallace and Crookes in his "Natural Science in the Spirit World," *Marx-Engels Archiv,* Bd., 2 pp. 207-216, translated into English in *Marxist Quarterly,* Vol. I, No. 1, pp. 68-76.

> the *hypothesis.* A new fact is observed which makes the customary mode of explanation for facts of the same class impossible. From this moment on, there is a need for new modes of explanation which at first rest upon a limited number of facts and observations. Further observation purifies these hypotheses, eliminates some, corrects others until the law is established in pure form. Were one to wait until the materials out of which the law is derived appear in *pure* form that would mean to suspend reflective inquiry indefinitely, and already for that reason alone the law would never be established." (*Dialektik und Natur, loc. cit.,* p. 155)

Engels very properly adds that the fact that hypotheses succeed each other, so that none can claim to be absolutely true, does not justify the belief that the essence of things is unknowable or that a legitimate scientific distinction can be drawn between appearance and reality.

We are all the more warranted in emphasizing this interpretation in virtue of Engels' claims that the dialectic is a method by which new truths are discovered, for whatever else scientific method may be disclosed to be, it is primarily the organized procedure of inference, prediction and control by which man extends the boundaries of knowledge .

In this section we have distinguished in the major works of Engels seven distinct meanings of the term dialectic insofar as it bears upon natural phenomena. They are: (1) dialectic as a constitutive principle of all things—a universal form of behavior to which there are no actual or conceivable exceptions; (2) dialectic as the logical pattern of transition and continuity; (3) dialectic as the logic of disjunction in situations where two alternatives are exclusive and exhaustive; (4) dialectic as the principle of polar opposition; (5) dialectic as a special constitutive principle whose existential locus is the development of *concepts;* (6) dialectic as the constitutive and heuristic principle that all things are systematically interrelated, and (7) dialectic as a groping, first approximation to the logic of scientific method. Other meanings may be found but with the exception of conceptions of dialectic that apply only to history and sociology (which are not included in the scope of this essay) none will be discovered to play a significant rôle in the corpus of Engels' writings.

It remains to ask now: to what extent are these seven conceptions compatible with each other? And if they are incompatible, which conception(s) of dialectic does Engels regard as most basic to his own thinking? These questions will be treated in Section II.

II

A first glance at the seven different meanings of dialectic in Engels will show that they fall within three groups: (a) dialectic as a universal constitutive principle, justifying the logic of organic totality (1 and 6 of the enumeration above); (b) in which the constitutive reference of the dialectic is limited to a restricted

field, or to a particular aspect of all fields (2, 3, 4 and 5); (c) in which it is synonymous with scientific method.

Are (a) and (b) compatible with each other? Yes, if (b) were subject to *special* laws of dialectic applicable to special fields without impugning the validity of the laws of (a). But there are no dialectical laws asserted to hold for (b) which are not restatements of, or deductions from, the dialectical laws asserted to hold for (a). However, we have seen that the point of the enumeration of special fields of (b) in which dialectic structure is found is to distinguish them from other fields of existence *not* characterized by dialectical structure. Or in other words, what (b) asserts is not "some, perhaps all, fields of existence are characterized by dialectic," but "some fields are so characterized and some are not." It follows therefore that (a) and (b) are related to each other as A and O propositions in the traditional logic, *i.e.* they are formal contradictories.

Are (a) and (c) compatible with each other? This depends on what we understand by scientific method. Now there is at least one proposition which every theory of scientific method must accept in some form or other if it desires to do justice to the actual procedures of scientific inquiry, *viz.* that it is possible to discover the functional relationships between a limited number of variables without taking into account the rest of the universe. Without this presupposition —whose fruitfulness proves that it is not arbitrary—scientific experimentation would be impossible. In fact, to say that all things are interrelated is to utter a formula devoid even of heuristic value. When it is invoked as an *obiter dictum* it will be found that what is meant is that *some* things are related in certain *specific* ways to some other things. It is simply not the case that each additional piece of knowledge leads to a modification of every other piece of knowledge. Nothing can be discovered except on the assumption that the particular situation investigated is determined by a finite number of *relevant* factors. The infinity of universes and the possible infinity of their interrelations, if they have any significance for science at all, mean not that knowledge *must* be inaccurate but merely that there is always something more to be known. At times Engels himself recognizes this as when he writes: "The extremest limit of our natural science is until now *our* universe and we do not need the infinite number of universes which exist out there in order to have knowledge of nature." (*loc. cit.* p. 159).

Another characteristic property of scientific method is that its techniques involve a transformation of materials, an intervention into natural processes, an introduction of *redirective activities* upon what is given to hand in order to achieve the tested knowledge necessary for prediction and control. Were everything in the world interrelated in one complex network of objective dialectic, then science as a human and cultural phenomenon, would be *theoretically* inferrible from the existence of that which is to be known. The world would have to be declared such that it could not *both* be true that it has the structure it is actually

discovered to have and science itself not have emerged. This is to assert, for example, that a star cluster in the heavens or the adrenal glands in man could not possibly exist unless they were discovered. Or, more generally, that it is theoretically possible by an organic logic to prove that a *necessary* connection exists between what is and what is known. This is the open gateway to idealism. Berkeley and Hegel stand on either side of the tortuous path beckoning unwary dialectical materialists who believe this to come closer.

A still more important implication is involved in the view that the historic development of science is subject to the immanent necessities of the one dialectical whole of which it is a part. For science as a phase of human culture is controlled by values, interests and needs which are revealed most clearly in the direction of scientific research and the variety of its applications. Human values, then, on the above view of organic determinism must have not only a cosmic support but must be constitutively involved in the very nature of things. Like all other things nature and society must be "dialectically" and, therefore, necessarily interrelated. But for Marxism as for every other non-Platonic philosophy, there are no values where there is no consciousness, or at least, some form of sentience. To make values constitutive elements in the dialectic totality, therefore, is to make consciousness an integral element of all existence, is to endow the scheme of things with some pervasive purpose or system of purposes which is gradually being fulfilled. What this leads to was pointed out by Engels himself when he taxes Dühring with surreptitiously introducing conscious activity into natural processes and relapsing into theology.[8]

A final root incompatibility between (a) and (c) is to be discovered in their respective notions of necessity as applied to existence. In (a) necessity is logical, systematic and circular. In (c) necessity is conditional and justifies only probability judgments. From the point of view of a philosophy which regards the world as a dialectic totality, the "necessities" expressed by scientific laws are abstract and contingent. Abstract because they are asserted to hold for all situations which conform to certain initial definitions irrespective of what *other* properties may be present; contingent because the relationships discovered to hold between the various elements of a situation are not derived from the "systematic dynamic nature" (Hegel) or "the self-moving nature" (Engels) of the objects investigated. For the ordinary scientist, however, there is no such thing as *the* nature of anything with inherent qualities of self-movement which constitute its so-called set of essential attributes. All attributes, properties and relations possess the same degree of essentiality or inherence except where in the course of his inquiry, he isolates certain characteristics for purposes of identification and uses them as defining traits in subsequent investigation. His mode of

8 ". . . Herr Dühring genöthigt ist, der Natur mehr als einmal bewusste Handlungsweise unterzuschieben, also das was man auf deutsch Gott nennt." *Anti-Dühring,* p. 23.

analysis is thoroughly relational and when he speaks of the *normal* or *natural* properties of anything he is employing these terms in a statistical sense.

The difference between the concepts of necessity in (a) and (c) may be illustrated by an example from Engels which is all the more to the point because it indicates what meaning the term "dialectic" normally has for Engels himself. In critically discussing "mathematical materialism" which explains the phases of a developed mental process step by step in terms of the functional relationships existing between the elements in any given region of space and time, Engels quotes with approval Hegel's doctrine of *der innere Zweck* (internal purpose). According to this doctrine, the nature of an organism (and for Hegel as for Whitehead all things may be characterized as organisms) determines the specific type of relationships which exists at any time between its constituent elements. It is denied that the nature of anything can be explained as the resultant structure of cumulative, empirically observable relationships between its elements and the complex of environmental conditions. At most, the absence of environmental conditions may prevent the nature of a thing from realizing itself but once the conditions are present (and something guarantees that sooner or later they will be), then the essential properties of a thing can be explained only in terms of its antecedently defined self-moving nature.

> "The point is," writes Engels, "that mechanism (also the materialism of the eighteenth century) never frees itself from abstract necessity and therefore from contingency. That matter has developed out of itself a thinking human brain is for it a purely contingent fact, although every step in its occurrence is necessarily conditioned. In truth, however, it is the nature of matter to progress to the development of thinking creatures and this occurs, therefore, always of necessity when the conditions for it (not necessarily everywhere and always the same) are present." (*Dialektik und Natur, loc. cit.* p. 292)

This asserts two things which can never be established by scientific method: one, that somewhere and sometime the conditions *must* appear which are necessary for the nature of matter to realize itself in the form of a thinking brain, for if the conditions of emergence *never* appeared, wherein would the necessity of the emergence lie except in an arbitrary definition of matter; second, that the emergence of a thinking brain is not univocally determined by a definite set of conditions, so that the necessity of the emergence of the brain cannot be attributed to the interacting complex of determinate conditions at a given time but to the nature of matter as such—a matter which elsewhere Engels tells us is "a pure creation of thought, an abstraction."[9]

That Engels is in earnest with his contention that the nature of matter is such that it must *necessarily* develop into a thinking brain, a striking passage

9 "Die Materie als solche its eine reine Gedankenschöpfung und Abstraktion," *op. cit.*, p. 234.

from the same work testifies. "We have the certainty," he says, "that matter in all its transformations remains eternally the same, that none of its attributes can ever be lost, and that therefore with the same iron necessity with which, on earth, it exterminates its highest product, the thinking spirit, it must some day somewhere else create it again." (p. 255)

This is a certainty that dialectic (I had almost said religion) may give—science never.

In the light of the foregoing, I think we are justified in maintaing that the class of meanings of dialectic in group (a) is incompatible with dialectic conceived as scientific method, group (c).

Are (b) and (c) compatible with each other? Here we must briefly compare the members of class (b) and (c).

(b)2 and (c). (b)2 is the logic of transition and continuity. It is obvious that scientific method takes note of continuities. In fact it is only in virtue of the application of scientific method that continuities have been uncovered and adequately described. But Engels interprets (b) 2 as if it entailed the denial of the laws of identity and contradiction. "Abstract identity, $a = a$, and negatively, a cannot be equal and unequal to a at the same time—are also inapplicable to organic nature" (*Ibid,* p. 157). Were this so, the work of science would come to a dead stop. As we shall see in Section III, where science seems to violate the law of contradiction it is in virtue of incompatible descriptions and statements, an incompatibility which is a spur either to further qualification of the descriptions or to redefinition—both designed to eliminate contradiction. Engels' interpretation of (b)2 must be declared incompatible with (c).

(b)3 and (c). (b)3 is the logic of disjunction where alternatives are mutually exclusive and exhaustive. This is compatible with (c). In fact it is a special case of the method of residues. Scientific method, however, never *guarantees* that all the known alternatives are exhaustive unless we are dealing with a proposition and its logical contradictory. And even here it may rule out both on the ground that their meaning content is irrelevant to the specific inquiry. Scientific conclusions, therefore, even when the purely deductive form of the method of residues is employed cannot give us more than probabilities.

(b)4 and c. (b)4 is the principle of polar opposition. If the metaphor of polarity is taken seriously, it is the purest mythology to extend it to everything. In this form (b)4 is a vestige of the Romantic *Natur-philosophie* and is inconsistent with any non-mystical conception of scientific method. If the principle of polarity states that every scientific category must have an intelligible opposite, then it is "true" and enjoys the status of a syntactical rule of significant assertion. The successful application of this rule in the construction of a scientific system justifies the inference that no situation in nature can be found which is resolvable into one element or possesses only one aspect. Attempts have sometimes been

made to interpret the principle of polarity as if it meant that in every situation forces will be found which are moving in opposite directions. But Engels scorns this interpretation as the sheerest commonplace devoid of any possibility of application. (*Anti-Dühring,* p. 122)

(b)5 and (c). (b)5 is dialectic conceived as the structural form of the natural history of concepts. If concepts do have this form, (c) is the only valid method by which that fact can be discovered. (c) and (b)5, therefore, are compatible, and related to each other as method and specific conclusion.

There remains the question of the relationships which the different conceptions of dialectic in class (b) bear to each other. To save space we shall state only the conclusions of the analysis.

(b)2 and (b)3, strictly interpreted, are incompatible, especially if both are regarded as having universal import.

(b)2 and (b)4 are incompatible.

(b)2 and (b)3 are related as (b)2 and (c), depending upon how (b)2 is taken.

(b)3 and (b)4 are compatible.

(b)3 and (b)5 are compatible.

(b)4 and (b)5 are related as (b)4 and (c).

We have already answered the first question we set ourselves in Section II. The various meanings of dialectic in Engels are incompatible with each other. The second question is: which meaning does Engels regard as primary in his own thought? Sufficient documentation has been given to indicate that the answer is (1)—dialectic as a universal constitutive principle operating everywhere and in everything. That Engels regards this as the primary meaning of dialectic is apparent also in the fact that the major part of his discussion of dialectic in the *Anti-Dühring* consists of an attempt to state the objective and universal *laws* of dialectic. In short, the laws of dialectic are laws of *ontology.* In section III we shall critically examine these laws from the point of view of logic and scientific method.

III

We have already seen that according to Engels dialectic is the science of extremely general, comprehensive, and therefore, important laws of development in nature, history and thought. The basic laws of dialectic are three in number. Running reference is made to them throughout all of Engels' writings. The formulation of these laws vary and the only extended discussion of them in the *Anti-Dühring* concerns itself in the main with the citation of illustrations.

The chief laws of dialectic are:

(1) "The identity of contradictories." Sometimes alternate phrasings are

found such as "the identity of opposites." On occasions the term "unity" is substituted for "identity." All four of the following expressions are used interchangeably in the works of most dialectical materialists: (a) the identity of contradictions (b) the unity of contradictions (c) the identity of opposites (d) the unity of opposites.

(II) The law of "the negation of the negation." Sometimes this is called "the law of the transformation of contradictions (opposites) into each other."

(III) "The transition of quantity to quality and vice versa."

(I) The fundamental presupposition of all the laws of dialectic is the belief that contradiction "is objectively present in things and processes." To say the very least, this is a strange use of the term "contradiction," for since the time of Aristotle it has been a commonplace of logical theory that *propositions* or *judgments* or *statements* are contradictory, not things or events. Engels is perfectly aware of the traditional usage but argues against Dühring that the refusal to make the concept of contradiction applicable to things is precisely what reveals the limitations of commonsense and formal logic. Indeed, not only does Engels maintain that contradiction is objectively present in nature, he insists that it is "an actual force as well."[10] Literally construed this would make a physical relation out of a logical category, so that the whole of mathematics and logic would be nothing more than a branch of physics. The difficulties in such a view are enormous. In addition to being flatly irreconcilable with basic principles of scientific inquiry, it cannot even be consistently stated.

If all existence is self-contradictory and, as Engels holds, all correct thinking is an image or reflection of things, then consistency would be an unfailing sign of falsity. The sciences, which regard consistency as at least a necessary condition of truth, could not take a step. If all existence is self-contradictory, then Engels is hardly entitled to say that thought which is a product of nature must "correspond" with it instead of contradicting it.[11] If logic is part of physics, then logical propositions could not possess the qualities of universality and necessity which Engels attributes to them also. And further, if propositions of logic have the same existential character as propositions of physics, then Engels is owing an explanation of why it is that denials of propositions of the first class always lead to statements that are self-contradictory while denials of propositions of the second class never do.

Engels does not concern himself with an answer to these difficulties. Instead he offers illustrations of the alleged fact that contradiction is objectively present

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10 *Anti-Dühring*, 12th edition, Berlin, 1923, p. 121.

11 ". . . es sich dann von selbst versteht, dass die Erzeugnisse des menschlichen Hirns, die in letzter Instanz ja auch Naturprodukte sind, dem übrigen Naturzusammenhang nicht widersprechen sondern entsprechen." *Ibid.*, p. 22.

in things and processes. The illustrations are: 1. The existence of motion. 2. The nature of life. 3. The form of the knowledge process. 4. The basic notions of mathematics.

1. *Motion.* The only argument which Engels advances for his contention that motion is contradictory is a variant of one of the general considerations adduced as long ago as Zeno. But whereas Zeno employed it to prove the unreality of motion Engels uses it to establish the objective existence of contradiction:

> "Motion is itself a contradiction: even simple mechanical change of place (*Ortsbewegung*) can only occur by a body at one and the same moment of time being both in one place and in another place, in one and the same place and not in it. And the continuous occurrence (*Setzung*) and the simultaneous solution of this contradiction is just what motion is." (*Anti-Dühring,* p. 120)

Now there is an important leap in this argument. For all that Engels could have established by considerations like the above is that certain *descriptions* or *statements* of motion violate the law of contradiction. Before he can conclude that motion itself is contradictory, he must first show that it is impossible to find, and operate with, any other *description* or statement of motion without falling into inconsistency. Not only does he fail to do this; it was already clear in 1894 when Engels wrote the preface to the third edition of *Anti-Dühring* that motion could be described in perfectly consistent fashion. The motion of any particle can be described by an expression indicating that its position in space at any moment t is a continuous function of time. And the concept of a continuous function has been made clear without assuming the existence of infinitesimal intervals of space and time which Engels believes to be involved in motion and fundamental to the theory of the differential and integral calculus. Further, it might be pointed out that, strictly interpreted, Engels' *description* of motion reveals no formal contradiction at all. To say that a body occupies two different places at one and the same time is perfectly legitimate if we recognize that the body has different parts; and there is no difficulty in admitting that a body can be and not be in the same place if we distinguish between different times. And still more, since in *rerum natura* there are no points without extension or moments without duration, Engels' formulation applies just as much to bodies at rest as to bodies in motion. He would thus be proving too much, for not only would motion be contradictory but its opposite, rest, would also be contradictory. And since everything in the world to which we may significantly apply spatio-temporal coordinates is either in motion or at rest, and this not absolutely but always relatively to something else, the term contradiction has no differential meaning. When not actually obfuscating, it is useless. The confusion is confounded when Engels speaks of contradiction as being the driving force of all movement and development, transforming logical notions into *demiurgoi* in a fashion which even

the logical idealism of Hegel does not justify.

2. *Life.* In citing organic phenomena as illustrations of the objectivity of contradiction, Engels equates contradiction to *struggle,*[12] and seems to suggest that wherever two terms are so related that they may be characterized as contradictory there is an actual struggle, conscious or unconscious, going on between them. There is no doubt that *struggle* is an appropriate term to apply to the relationship which exists between social classes, and in the Darwinian sense, to the relationship between biological species, and to a lesser degree even to some of the relationships between individuals within the same species. But since struggles are only found where *living* creatures are found, Engels must have been speaking metaphorically when he suggests that it is a universal and objective trait of existence. Unless, of course, he is to be classified with the Romantic *Naturphilosophen* for whom all nature is animate and who were wont to speak of *things* struggling with each other. We are probably closest to Engels' meaning if we take him to mean that life is contradictory for the same general reason that motion is, *viz.* that it violates the law of contradiction. In fact, Engels sometimes employs the same formulation in both cases:

> "We saw above that life consists before all just in this that a living creature is at each moment itself and yet something else. Life is therefore also a contradiction present in things and processes, continually occurring and solving itself; and as soon as the contradiction ceases life also ceases and death steps in." (*Op. cit.,* p. 121)

Of course Engels should have added that as soon as the contradiction ceases a new one steps in, for on his own premises only the forms of contradiction change. But there is nothing contradictory about this description of life; it merely suffers from vagueness. Once we introduce the proper distinctions and qualifications, we can get a consistent enough account of the phenomenon of life. Life is distinguished from non-living things in that it is a self-conserving process with a physico-chemical structure which regulates the ingestion, digestion and excretion of food and makes possible selective activity, growth and reproduction. At any definite time its behavior is a function of a complex of environmental stimuli and of its own physico-chemical state in relation to which only certain phases of the environment can serve as stimuli. That an organism can keep going only in virtue of the dissolution and assimilation of certain organic compounds from without—"living is a process of dying"—is not a contradiction; nor is it a fact which compels us to utter contradictory statements in describing it except where we are licensed by poetic usage. An animal, for example, can

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12 " . . . dass man keine Malthus-Brille braucht, um den Kampf ums Dasein in der Natur wahrzunehmen—den Widerspruch zwischen der Zahllosen Menge von Keimen, die die Natur verschwenderisch erzeugt, und der geringen Anzahl von ihnen, die überhaupt zur Reife kommen können." *Op. cit.,* p. 60. A strange kind of contradiction that!

keep on living only if plants (or *other* animals) keep on dying. An animal can keep on living only if it keeps on eliminating its dead cells. But the fact that we distinguish between living and dead cells in any body makes it impossible to say that *in the same respect* and *at the same time* any cell of the body (as well as the body as a whole) is both living and dead. Nor is there any mystery in the fact that we speak of the *same* body although the materials of the body are completely renewed every seven years or so, if we bear in mind that identity, when it is employed as an explanatory category, depends upon some defining perspective. Identity of personality, for example, depends more upon social, legal and psychological considerations than upon physical or biological states.

3. *Knowledge.* One of the most interesting passages in *Anti-Dühring* consists of an attempt to trace the way in which any doctrine that affirms the existence of final, ultimate and eternal truths slips by degrees into ethical and social apologetics. For Engels, eternal truths are either tautologies or trivialities. Absolute Truth is conceived as the limit of the knowledge process carried on by an endless number of generations. As far as the individual thinker is concerned, the knowledge he acquires always contains more elements that can be improved upon than elements that cannot (p. 80). Here undoubtedly Engels has justification in the history of science and the nature of scientific procedure for his stress upon the approximate character of knowledge. But he professes to find in the self-corrective processes of knowledge a contradiction—a contradiction between thought which is sovereign and absolute considered from the point of view of its ideal *possibility* and *aim,* and thought which is limited and relative in its actual exemplifications. Science strives for absolute knowledge but at any definite moment of time falls short of it; but the contradiction is solved, says Engels, by the infinite progression of the knowledge getting activities of man:

> "We likewise saw how even in the domain of thought we cannot escape contradictions, and how, e.g., the contradiction between man's intrinsically unlimited faculty of thought and its actual existence in men so completely limited by their external conditions as well as in their knowledge, is solved, in what is, at least for us, practically an endless succession of generations, in infinite progress. (*Anti-Dühring,* p. 121)

Strictly speaking only problems, puzzles and difficulties are solved, not contradictions. And solutions always involve the elimination of contradictions, not from things, but from our analysis of them. Even, however, if we grant that Engels has described the aim and procedure of scientific knowledge correctly, there is no contradiction involved in positing an ideal and failing to realize it any more than there is a contradiction in aspiring towards perfect health and failing to achieve it in some respect. There are two questionable assumptions, however, concealed in Engels' account of the alleged "contradiction" in the knowledge process. The first is that the ideal of scientific knowledge is absolutely valid

knowledge, and second that, assuming this is the ideal of scientific knowledge, there must be absolutely certain truths which enable us to order series of truths which are not absolutely certain. For Engels, these absolute truths are limits of unending series of relative truths which approach closer and closer to their limits with the passage of time and the accumulation of knowledge. Modern science, however, is primarily interested in knowledge which is *sufficiently fruitful* and *reliable* to enable us to solve problems of inquiry. Where it employs the term "truth" the reference is to the degree to which a proposition coheres with a set of other propositions and ultimately to its relative adequacy in enabling us to make verifiable predictions. At no point in his procedure is the scientist compelled to assume that there are absolutely certain truths about matters of fact.[13] And secondly, insofar as science operates with a definition of truth, the definition serves as a *rule* to guide scientific procedure in ordering the reliability of a series of propositions: it does not serve as a warrant for inferring that absolute truth exists as a limit of an infinite series of relative truths. In this it functions analagously to other definitions. A definition of hardness, for example, enables us to order various substances in a series of increasing or decreasing hardness but it does not at all follow that therefore an absolutely hard substance exists which is the limit of an infinite series of substances of varying hardnesses. Engels' remarks exhibit a confusion between an ordering principle according to which a series is organized and a limit towards which a series converges.

4. $\sqrt{-1}$. Although, as we have seen in Part I, Engels often refers to mathematics as the realm in which undialectical yet valid thinking proceeds on the basis of the abstract laws of identity and non-contradiction, he just as often couples this assertion with the claim that many fields of mathematics are still subject to the higher laws of dialectic where contradiction is king. The chief illustration is drawn from the calculus but is unfortunately vitiated by the antiquated theory of infinitesimals already abandoned by mathematicians in Engels' own day. But even elementary mathematics, according to Engels, teems (*wimmelt*) with contradictions. And the most striking of these is

> "The contradiction that a negative quantity should be the square of anything, for every negative magnitude multiplied by itself gives a positive square. The square root of minus one, therefore, is not only a contradiction but even an absurd contradiction, actual nonsense (*wirklicher Widersinn*). And yet the $\sqrt{-1}$ is in many cases a necessary result of correct mathematical operations. (*Op. cit.*, p. 121-122)

It would follow that since all thought, particularly when applied successfully

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13 In one of his genial insights which for all their inconsistencies makes Engels' writings instructive even to critical readers, Engels recognizes this. "Wirklich wissenschaftliche Arbeiten vermeiden daher regelmässing solche dogmatische-moralische Ausdrücke wie Irrthum und Wahrheit." (*Op. cit.*, p. 87)

to nature, is a "reflection" of natural processes, nature must not only be contradictory but "in many cases" positively absurd. And were Engels to qualify the fidelity and universality of the "reflex" character of thought, it would still remain hard to understand how by operating with absurd contradictions and actual nonsense we could so successfully predict, construct and explain things. The absurdity, however, must not be laid to the door of the $\sqrt{-1}$ but to Engels' own characterization of it. The rule that the square of a negative number must be positive holds only for the integers, rational, and irrational numbers but not for the imaginaries, and this only in virtue of our definitions. It is true that according to some historic definitions of number the $\sqrt{-1}$ could not be regarded as a number, just as according to a still earlier conception of number, the $\sqrt{2}$ was an illegitimate notion. But all this only led to a *redefinition* of number in which every shadow of contradiction disappeared. Engels' failure to appreciate the logic by which the structure of mathematics has developed is so profound that it leads him to assert that there is a contradiction even in the fact that a root of a ($\sqrt{a}$) should be a power of a ($a^{\frac{1}{2}}$) whereas both symbolic expressions are merely different ways of stating the same relation.

In none of the illustrations considered has Engels demonstrated the presence of contradiction. In all of them, the appearance of contradiction is due to inaccuracy of phrasing or disregard of context.

We are now in a position to look at the first law of dialectic in its variant forms.

a. *The identity of contradictories.* This is neither a law of things nor a law of thought and falls much more properly in the class of real absurdities than does the $\sqrt{-1}$. Taken literally it is a denial of the law of non-contradiction and hence is compatible with any other proposition true or false.

b. *The unity of contradictories.* Unity may mean that a proposition and its contradictory furnish a formally exhaustive description of the possibilities of a situation, which follows of course, from the definition of what contradictories are. Or unity may mean, as some of Engels' illustrations suggest, a physical relation. In which case we are dealing with another real absurdity—a logical relation hypostasized into a thing.

c. *The identity of opposites.* Opposition is a term nowhere defined in Engels and is used sometimes in a physical sense and sometimes in a logical sense. In any sense, however, it is hard to determine what is meant by opposites being identical. It seems to mean (i) sometimes nothing more than the principle of significant assertion, (ii) sometimes the universality of polar opposition, and (iii) sometimes the fact that two different aspects of a situation, or two different situations, have, under certain circumstances, identical *effects.* This first meaning is not a law of nature, the second is not universally true of nature, and the third would justify our calling many different things identical irrespective of whether they

were opposites of each other or not.

The peculiar meaning which Engels gives to the law of the identity of opposites is revealed in a triumphant comment, in *Dialektik und Natur,* on a sentence from Maxwell's *Theory of Heat.* Maxwell had written: "These rays [of radiant heat] have all the physical properties of rays of light and are capable of reflexion, etc. . . . some of the heat rays are identical with the rays of light while other kinds of heat rays make no impression on our eyes."

> "So," adds Engels, "there are *dark* rays of light and the famous opposition between light and darkness disappears as an absolute opposition from natural science. In passing, let us note that the obscurest darkness as well as the brightest light produces the same *blinding* effect upon our eyes and therefore are *for us* identical." (p. 192)

Other things besides light and darkness can produce a blinding effect upon the eyes—*e.g.* a blow, submersion in water, or coming across an extraordinary howler. They may all be identical for us without being identical in structure or *opposite in character.* It did not require the discovery of electro-magnetic vibrations, whose wave lengths were such that they did not register on the human retina, to establish the fact that no situation in nature is absolutely dark or absolutely light. Nor does the recognition that in nature regions are absolutely dark or absolutely light justify confusing the *meanings* of light and dark by asserting that an identity or unity relates them. That Engels can speak of *dark* rays of light when he himself admits that "what is light or not light depends upon the structure of the eyes" may seem to be an innocent solecism; but it also serves as a good illustration of how linguistic errors give rise to bad metaphysics.

d. *The unity of opposites.* The most plausible interpretation of this is that all things and situations have a polar structure. But as we have already seen in Section I, polar opposition may mean either that no description of any state of affairs can be understood unless the terms employed have meaningful opposites or that every state of affairs is capable of *differentiation* in respect to its own parts, elements or neighboring regions. The first view makes of the law a rule of significant syntax; the second merely expresses the fact that differences are observable everywhere, a proposition which like the proposition that the world exists is too general to have any heuristic value.

(II) We shall now examine the second fundamental law of dialectic, "the negation of the negation." This has been often referred to as the soul of the dialectic.

Like the other laws of dialectic, the "negation of the negation" is nowhere strictly defined. It obviously involves a relationship which holds between three terms or phases in a temporal series. The relationship between any two successive terms in a triad is alleged to be one of logical contradiction or opposition. Before

the "negation of the negation" can be completed there takes place "a transformation of opposites (contradictories, extremes) into each other" which, if it means anything at all, asserts that things change in time, that every *distinction* within a temporal process may be regarded as an *opposition,* and that every opposition in time loses its defining character and assumes the traits of its converse. Here again we have no recourse but to examine the illustrations Engels offers of the law of the negation of the negation. And we may be heartened by his assurance that the process it describes is really very simple, "occuring everywhere and every day" and once freed of idealistic fripperies "intelligible to any child." (*Anti-Dühring,* pp. 137-8)

Of the many illustrations cited by Engels, we shall examine, in the interests of space and the readers' patience, only two—one from nature and the other from mathematics. They are selected because they serve as the stock illustrations in the literature of orthodox dialectical materialism (significantly enough, they are to be found in Hegel's *Logic*).

1. *Growth*: "Let us take a grain of barley-corn. Billions of such grains are ground, boiled and brewed, and then consumed. But should such a grain of barley-corn find conditions which are normal for it, should it fall on favorable soil, then under the influence of heat and moisture there takes place a characteristic change, it sprouts: the grain as such disappears, is negated, and out of it arises the plant, the negation of the grain. But what is the normal life-course (*Lebenslauf*) of this plant? It grows, blossoms, is fertilized and finally produces grains of barley-corn again, and as soon as these are ripe the stalk dies, is in its turn negated. As a result of this negation of the negation, we have the original grain of barley-corn again but not single fold but ten, twenty or thirty fold." (*Ibid,* p. 138)

In this cycle of seed, flower and fruit, neither logical contradictories nor contraries, enter, for when these are doubly negated we get the original term or proposition [−(−P)=P], and the point of the law is that we never simply come back to our starting point. Phases of the process of growth can be distinguished, of course, but the *number* of such phases depends upon the purpose of our inquiry. Nor is one phase the cause of the subsequent phase, for whether a phase is realized or not depends not merely on the structure of the antecedent phase but on a complex of existing conditions whose presence does not follow in any way from the structure of the seed-flower-fruit cycle. That the negation of the negation completes itself is a statistical fact which Engels admits when he speaks of the *normal* conditions that must supervene before the barley corn develops. But if this proves the *objectivity* of the law of the negation of the negation, the admission that sometimes the conditions do not supervene, disproves the *universality* of the law. And what of the grains of barley-corn that are "ground, boiled, brewed and consumed"? The process is scientifically just as normal and natural

as when they are used for seed. Ah! says Engels, this is not playing according to rules. The seed must be so negated that it does not make the subsequent negation impossible. "If I grind a grain of barley-corn or crush an insect, I have indeed completed the first act [of negation—S. H.] but have made the second impossible. Every kind of thing has, therefore, its characteristic way of being negated, so that a development takes place." (p. 154). But scientifically the grinding of a grain of barley-corn or its consumption is just as much a part of its nature, under determinate conditions, as its sprouting, Here as elsewhere Engels relapses into the Aristotelian doctrine of essential natures—a conception which is incompatible with the dictum he accepts from Hegel that the nature of a thing is equivalent to the sum total of all of its appearances and is not a structure existing behind, separate from, or in opposition to them. If anything can be "negated" undialectically this is just as much a part of its nature and may be just as important for purposes of scientific inquiry and human welfare as the fact that it can be "negated" dialectically.

A possible answer to this objection may claim that no matter what happens to the grain of barley-corn, it enters into a new situation in which the law of the negation of the negation holds. Thus if the grain is used as feed for cattle we have a seed-feed-food cycle; if it is ground into powder for *materia medica,* we have a seed-medicine-health cycle; if a wind blows it onto poor soil or into water, we have a seed-decomposition cycle, etc. But from Engels' point of view, such an answer is false, since these cycles do not necessarily—or even usually—lead to the *recreation* of seeds; and from a scientific point of view, it is the barest tautology, for it amounts to saying that anything that happens constitutes a *development,* thus making development synonymous with change: and by definition anything that happens involves change.

Wherever the principle of the negation of the negation is significantly used, as in history, it presupposes human activity which realizes a possibility grounded in the structure of the situation. Concrete practice (*Praxis*) is the synthesis; the plan which is counterposed to and suggested by the situation is the antithesis; and the original situation with all its difficulties and problems serves as thesis or starting point. This may be rewritten in such a way as to make the presence and guiding influence of human *needs* more explicit. But however expressed there is always reference to a plan, purpose, or interest, itself always accessible to scientific analysis, and which accounts for the specific way a situation is negated, as distinct from all the possible ways. Even aside from the confusion between logical and physical categories, Engels' characterization of *natural* processes as subject to dialectical negation introduces an element of consciousness as a pervasive trait of all things, and is, therefore, incompatible with the materialistic and scientific assumptions of Marxism.

2. *Mathematics.* Engels' treatment of mathematics leaves something to be

desired from the standpoint of clarity and consistency. His theory of knowledge requires that *all* thought be a reflection of existence, and by a reflection is meant sometimes a copy, or image, sometimes merely an effect, and sometimes an abstraction. Mathematical relationships, therefore, are in no way to be explained as free creations or conventions. "In no way does the mind concern itself in pure mathematics only with its own creations and imaginative products. . . . Pure mathematics has as its object the space forms and quantitative relations of the real world, consequently, a very real stuff." (*Anti-Dühring,* p. 25) Mathematics abstracts from the specific content of things and concerns itself with their general forms. But at this point Engels adds the strange doctrine that only at the very end of the process of abstraction do we reach the domain of free creations " . . . only at the very end [of these processes of abstraction—S. H.] do we first come to the free creations and imaginations of the mind, *i.e.* to imaginary magnitudes.[14] The apparent derivation of mathematical magnitudes from each other proves not their a priori origin but only their rational interconnection." (p. 25)

But it is precisely this rational interconnection between mathematical concepts which shows the absurdity of regarding some mathematical relations as "real" and others as "imaginary." Mathematically, they are all in the same boat—either they are all free creations or none of them is. When Engels asserts in his *Dialektik und Natur* that whoever attributes to the $\sqrt{-1}$ any kind of reality outside of our own heads might just as well believe in spooks,[15] the same applies to all other numbers, including $\sqrt{2}$,–1, and 1. The source of Engels' confusion is to be found in an inadequate conception of abstraction and a faulty definition of mathematics. His theory of abstraction fails to distinguish between physical abstractions—like perfectly elastic bodies and frictionless engines—and mathematical "abstractions" which are really not abstractions at all, except in a vague psychological sense, but logical definitions. And the definition of mathematics, as the science of quantity and space, central to Engels' discussion, simply overlooks the fact which was well-known even in his day, that many branches of mathematics do not concern themselves in the least either with quantity or space.

Since for Engels all thought including mathematical thought is a "reflection" of nature, if the law of the "negation of the negation" holds for the latter it must hold for the former. Nothing could better demonstrate the fantastic consequences of such a notion than Engels' own key illustration and the admissions he is compelled to make in defending it:

> "The same is true in mathematics. Let us take any algebraic magnitude whatever, say, *a*. If we negate it, we have –a (minus a). If we negate this negation, by multiplying –a with –a, we have $+a^2$, i.e., the original positive

14 " . . . und kommt dann ganz zuletzt erst auf die eigenen freien Schöpfungen und Imaginationen des Verstandes, nämlich die imaginaren Grossen."

15 *Marx-Engels Archiv,* Bd. 2, p. 216.

magnitude, but at a higher level (*Stufe*), namely, the second power." (*Anti-Dühring,* p. 139)

Engels anticipates the objections which are on the lips of his readers. If we negate $-a$, we do not get $+a^2$, but $-(-a)$ or a, the original term. Or if we want to get a^2, we need merely multiply a by itself without resorting to the first negation, etc. To all of these objections, Engels replies with a sentence which gives the whole show away. "I must so construct (*einrichten*) the first negation, that the second remains or becomes possible." (p. 145) And the second negation must be constructed in such a way, that the *Aufhebung* of the first gives the original entity on a "higher" plane. What could be more explicit than the recognition that in pure mathematics, at any rate, the operations employed depend upon *our* definitions, *our* constructions, *our* choice of one set of rules rather than another and not at all upon the objective structure of a dialectic which is found in nature? And how could Engels overlook the implications of his concession that at least some mathematical operations, like, ordinary double negation $[-(-a)=a]$ which is basic in elementary algebra, do not conform to the precious law of the negation of the negation, alleged to be universal in validity?

Disregarding the implications of his own statements, Engels presses on to deliver a final thrust against those who like the unfortunate Dühring have protested that Hegel's principle of the negation of the negation, even when it appears in the writings of avowed materialists as a literal law instead of a poetically justified metaphor, is nothing else but a vestige of theological mysticism. "If he desires to banish it [the law] from thought, will he please be so kind first to banish it from nature and history and invent a mathematics in which $-a. -a$ is not $+a^2$." (*Ibid,* p. 146)

Alas! Dühring could easily have obliged him, for it is perfectly easy to invent a mathematical system in which $-a \,.\, -a$ does not equal a^2. The operation of multiplication can be defined in such a way as to make the product of $-a$ and $-a$ not a^2 but, $-a$ or even O. In fact, we do not have to invent a mathematical system. We need only point to the Boole-Schroeder algebra in which $a.\ a=a$ and $-a.-a=-a$.[16]

(III) Of all the so-called laws of dialectic, the law of the transition of quantity into quality comes nearest to suggesting a valid scientific principle. But even it is burdened with a cluster of misleading associations and inaccurate formulations. Sometimes this law is considered to be a special case of the law of "the identity (unity, interpenetration) of opposites (contradictories)" on the mistaken assumption that quantity and quality are *logical* contraries. In his discussion of the law in *Anti-Dühring* Engels speaks of the "transformation"[17] (*Umschlagen*)

16 Cf. Lewis and Langford, *Symbolic Logic,* New York and London, 1932, p. 29.
17 Pp. 33, 127, 129.

of quantity into quality and vice versa which adds confusion to vagueness, for although quantities may vary and qualities may vary and the relationship between the variations of both may be described, as the case may be, by continuous or discontinuous functions, it is absurd to say that quantity ever *becomes* quality or quality quantity. Further, sometimes this law is so formulated as to suggest that quality first comes into existence as a result of variations in quantity, as if every quantity were not already a quantity *of* something already possessing quality. And when this is recognized as an error, it is often incorrectly held that quantity and quality are strict correlatives. It is overlooked that quality is logically prior to quantity. We cannot speak of quantities without presupposing the existence of qualities but it is possible to speak of qualities in situations where it is *problematic* whether or not quantities, as a matter of *fact,* can be reliably ascribed to qualities, and in other situations where as a matter of *syntax* it is impermissible to predicate quantity of quality. For example it is still an open question as to whether we can predicate quantity of intelligence; and no one, strictly speaking, can quantify qualities like innocence or perfection.

The illustrations which Engels uses from chemistry, economics and cavalry tactics indicate that the law expresses nothing more than the simple principle that gradual variations in quantity, at a certain point, result in the sudden appearance of a *new* quality. Since in science and daily life the appearance (or disappearance) of these new qualities can only be controlled by changing the quantitative relations with which qualities are correlated (measured), it is permissible to say that sometimes gradual variations in quantity *cause* new qualities to emerge. From the time of Galileo, the methodological principle of science has been that all qualitative differences are expressible in terms of quantitative differences—a principle which, of course, does not justify an *identification* of quality with quantity.

That gradual differences in quantity or degree lead, at certain critical points, to sudden differences in quality or kind is a proposition which must be qualified in several important respects before it can be regarded as a valid generalization. First of all, this is a principle which cannot be asserted to be *universally* true, for there are many qualities which permit of indefinite variation without making way for other qualities. Weight, for example, does not disappear to make way for a new quality when more and more stones are added to a heap; nor, to take a quite different quality, is learnedness succeded by a new quality when one learns more and more things. Secondly, if the new quality which suddenly arises is a genuine emergent, then the principle has little scientific value because it can only testify *after the fact,* so to speak, that a new quality has suddenly appeared in a situation whose presence could not be inferred from the presence of the qualities and quantitative relations of the component elements of its antecedent states. This would make *new* qualities essentially unpredictable. The difficulty is that some of Engels' illustrations suggest he is

speaking of these qualities as genuine emergents and yet at the same time he refers to them as if they were quite predictable. Thirdly, the *attribution of suddenness* and *novelty* to a quality does not depend merely upon the effects of the gradual variation in the quantity with which the quality is correlated (measured) but is relative to some perspective of interest, need, or attention. For example, to a *musician,* the qualitative difference between *any* two successive notes on a scale may be every whit as absolute, sudden and novel as the qualitative differences the physicist observes when the sound waves vary from just below the point of minimal audition to just above the point of maximum audition.

This last point may be made clearer if we examine Engels' stock illustration of the third law of dialectic.[18] Under normal atmospheric pressure, water changes from a liquid to a solid at O°C. and from a liquid to a gas at 100°C. Ice and steam suddenly appear at these critical points. But for certain purposes the qualitative difference between water at 10°C. and water at 99°C. may be even more relevant than the difference between liquid and steam. To the tenant waiting for his radiator to get warm, it makes little difference whether water at 99° or steam circulate in the pipes. But the differences in the temperature of water may make all the difference between feeling chilled or comfortable. The qualities which we name when we describe what water feels like to the hand are no less real than the qualities which describe what it looks like to the eye. There is always more than one series of variations in quality which can be correlated with any given series of variations in quantity. And the characterization of any change in a quality series as sudden always *follows* a discrimination of the one quality series, as against the others, which is relevant to our purposes in a concrete situation. The tea-drinker notes with dismay that his water has gone up in steam; the physician can sterilize his instruments, just as well in steam as in boiling water. The cook may wring his hands because the water mixed with other ingredients is not at the right temperature; the porter may be completely insensitive to any differences. The quality variations are all equally objective; and they *may* all depend upon one fundamental series of quantity variations. But we cannot assume that the *suddenness* with which a quality appears in one series of variation will always enable us to make legitimate inferences about what will be experienced as sudden by those whose interests and attention lead them to concern with *other* series of quality variations.

One final word about quality. Insofar as we are considering concrete qualities which have a definite existence in space and time, like green, hard, glassy, it is meaningful to speak of variations in, and succession of, qualities; but insofar as qualities refer not to concrete traits of experienced things but to *definitions* which enable us to order and classify these traits, *e.g.* greenness, hardness, glassiness, it is

18 For Hegel's discussion of this illustration, cf. *Science of Logic,* Eng. trans. Vol. I, pp. 389-390.

impermissible to say that is subject to spatio-temporal variation and succession. Two different shades of green have not more or less of the quality (definition) of greenness in them any more than an object which is twice as hard as another exemplifies the quality (definition) of hardness twice as strongly. To overlook this distinction, which corresponds to the traditional distinction between particulars and universals, is to be committed to the belief that the quality of greenness is itself green and the quality of hardness hard.[19] The law of the transition (transformation) of quantity into quality, as formulated by Engels, in its claims to be valid for all qualities, sins against this distinction. It ignores the fact that there is a class of qualities of which we can only say either that objects exemplify them or do not exemplify them, and not that objects have them in some degree or other.

We must conclude that the so-called universal laws of dialectic are neither laws of nature nor adequate laws of ontology—material or formal.

IV

If we have established anything so far, we have shown that the only sense in which the dialectic is applicable to nature is the sense in which it is an abbreviated synonym for scientific method. And as a confirmation of this conclusion we need only ask of those who deny it, to point to a single case of knowledge discovered by, or explicable in terms of, the dialectic method which cannot be more simply certified by the canons of scientific method. As an additional task we might challenge them to translate the findings of modern science into the language of dialectic and to compare the structure of propositions so derived with those of science in respect to verifiability, simplicity, systematic connection, and fruitfulness for the acquisition of new knowledge. If the fundamental laws of dialectic, analyzed in the preceding section, are held to be integral to the conception of dialectic, then it is doubtful whether any translation can be made, for we have seen that these laws violate the fundamental principles of logic, scientific method, and, in places, of coherent syntax.

Those who interpret the dialectic method as scientific method brought to critical self-consciousness, must be wary of accepting the historical paternity which Engels has invented for the doctrine. By this is not meant his reference to the embryonic dialectic method of the Greek philosophers, although even here the obvious unscientific character of their philosophy and the absence of experimental science in their time makes the existence of the ancestral line somewhat dubious. What is meant is Engels' specific attempt to draw a straight line of derivation from Kepler to the Romantic *Natur-philosophen,* (Goethe, Oken, Treviranus, and others), through them to Hegel, and from Hegel to modern

19 For an elaboration of this distinction, see Dewey "Characteristics and Characters: Kinds and Classes," *Journal of Philosophy,* No. 10, May 7, 1936.

dialectical materialism instead of from Galileo, to Newton, to modern natural science. Engels cites with approval Hegel's contention that Kepler, not Newton, was the real founder of celestial mechanics, refers to Newton as an *Induktionsesel,*[20] claims that modern scientists can with profit still go to school to Hegel, and quite explicitly invokes the mystic romantic seers whose work was an amalgam of theology and science as the inspired precursors of dialectical materialsm. *They,* and not Galileo, Newton, Laplace, were the great "Utopians." "The *Natur-philosophen* are related to consciously dialectical natural science like the Utopians to modern communism." (*Anti-Dühring,* p. XVI)

It need not be denied that the Romantic natural philosophers hit upon some notions concerning evolution and magnetism which were later developed in more scientific form but these were in the nature of lucky hunches and had no logical connection with their intuitive method and their philosophy of magical idealism.

If the dialectic method is another name for scientific method then the question of its universality must read: Is scientific method universally *applicable?* To which the answer is that all events can be approached scientifically although it does not therefore follow that whatever can be scientifically approached results in a science. That depends upon the complexity of the subject matter involved, the degree of regularity in the phenomena observed, and the practical resources at the command of the scientific community. That Marx believed that scientific method is the only valid method of acquiring and certifying new knowledge and that there is no inherent obstacles in the structure of things or the human mind to prevent their scientific study is indisputable. But his acceptance of scientific method as the only valid method of extending and certifying knowledge does not justify in the slightest degree the absurd claim that Marx (or Engels) anticipated the subsequent results of applying scientific method. Like the religious fundamentalists who see in every new scientific discovery a confirmation of some Biblical text, some orthodox dialectical materialists see in the progress of modern science a progressive vindication of the doctrines of the founding fathers. Thus, for example, J. D. Bernal asserts, "From the dynamics of relativity motion and mass become equivalent. This conclusion, which required all the refinement of mathematical technique of Michaelson and the mathematical genius of Einstein to demostrate in the 20th century, was grasped in principle by Marx and Engels before the middle of the 19th century."[21] Surprisingly enough Einstein's own comment on Engels' *Dialektik und Natur,* when the manuscript was submitted to him by Bernstein, reads "its content is not of any special interest either from the standpoint of contemporary physics or of the history of physics."[22], [23]

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20 *Dialektik und Natur, op. cit.,* p. 152.

21 *Aspects of Dialectical Materialism,* London, 1934, p. 101.

22 Quoted by D. Riazanov, *Marx-Engels Archiv,* Bd. 2, p. 141.

23 It should be observed that on the fundamental question of the nature of space and time

If the dialectic method, properly understood, is nothing but scientific method then the dialectic, as it applies to the realm of history and sociology, is the result of the operation of scientific method in that specific field. It was in the name of scientific method that Engels protested against the attempt to reduce history and psychology to physics. "We are certain some day experimentally to reduce thinking to molecular and chemical movements in the brain; but is the essence of thinking therewith exhausted"? (*Ibid,* p. 167) Not that thinking is possible without the presence of molecular motion of some sort but this motion it shares with non-thinking organisms as well as inorganic things. Consequently it cannot serve as a clue to its distinctive quality or nature. Again, it was in the name of scientific method that Engels protested against reducing history to biology. The "struggle for existence," made an all inclusive explanatory principle after Darwin, is dubious enough, even as a purely biological category, for there is more in nature than struggles, but when applied to history, Engels maintains, it overlooks the fact that men are distinguished from other animals in that they produce, and do not merely collect, the means of life. The differences are subject to other laws and descriptions. "The carrying over of biological laws of animal societies to human societies without further qualification is therewith made impossible." (p. 191)

It is sometimes maintained that the dialectic method is the method which corrects the errors scientists fall into when they wander into fields outside their special interest. But is obvious that the errors so made result from a violation of scientific method and can be corrected without invoking any other method. The errors of those who believe that the dialectic method is something different from scientific method are no less egregious than are those of spiritualistic minded scientists, and less entertaining.

We conclude, then, that the dialectic method can claim to have meaning and validity only when it is understood to be synonymous with scientific method; that since in its traditional formulation it is burdened with many misleading and mistaken conceptions, it would be more conducive to clear thinking if the phrase were dropped; that its retention engenders a mystical philosophy of nature, prepares the way for a doctrine of "two truths," one ordinary, scientific and profane, the other, esoteric, "dialectical" and "higher"; and finally that it encourages an attitude which easily leads to censorship, dictation, and persecution of scientists.[24]

Dühring anticipated developments much more accurately than Engels who subscribed in an obscure way to Newton's theory of absolute space and time. Einstein's great indebtedness is not to Mach's theory of science but to his relational conception of space and time. Mach, in turn, pays Duühring quite handsome acknowledgements in his *Science of Mechanics,* particularly with reference to Dühring's critical work (Eng. trans. p. XI). Note to radical critics: This recognition of Dühring's insight no more implies an acceptance of D.'s views on politics and economics than the rejection of Engels' notions on dialectic and nature implies a rejection of the latter's historical or social theories.

In identifying the dialectic method with scientific method, it is not implied that the nature of scientific method is so clearly defined that universal agreement exists concerning all of its principles. On certain problems, especially those involving induction and probability, not to speak of meaning and verification, there is considerable divergence of opinion. It may even be that every systematic theory of scientific method is committed to some metaphysical presuppositions whatever these are. But scientific philosophy as distinct from traditional dialectics not only arises out of reflection upon the procedures of the sciences, it receives its test in the fruitfulness of its bearings upon those procedures. In order to justify its claims that it adds to knowledge and understanding it must offer a coherent account of these procedures, or call attention to and eliminate inconsistencies in the statements made in the communication of scientific findings, and interpret science as a human enterprise in relation to other aspects of social life and experience. Short of this, the very least it can do is to avoid infecting scientific minds with the errors that have been permanently embalmed in spiritualistic metaphysics. Historically and analytically, the belief in a *Naturdialektik* has been a central doctrine of every system of metaphysical idealism from Plotinos to Hegel.

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24 For an account of the mischievous rôle which the notion of dialectic has played in contemporary Russian science and philosophy, see J. Rosenthal "On the Soviet Philosophical Front" in *The Modern Monthly,* Dec. 1936 and subsequent issues.

A Marxist Critique of Thomism[1]

BY MAX RAPHAEL

THE SECTOR of the world uncontrolled by man confronts reason without the mediation of the body, the senses or the understanding, and reason is all the less disposed to such a mediation the smaller its own content is. Reason must therefore first seek guarantees against its own arbitrariness. And it is characteristic that this security is found not only outside the world but also outside consciousness. For this shows that man was wholly aware not only of the inadequacy of his own mind but also of his part in the creation of God.

In positing a token of absolute transcendence man acts under illusion, but this illusion has a basis in reality. It is wholly improbable that man could ever have imagined an absolutely transcendent world if he had not experienced through his bodily activity or senses a relatively transcendent earthly world, *i.e.* a world transcending his own consciousness. And it is hardly an accident, but rather the result of all preceding experience, that in the theology of St. Thomas the absolute and relative transcendence (the dependence of things and of human thinking on God and the dependence of human thinking on the objective external world) should appear together. Thus even the fiction of a token of absolute transcendence speaks—however inadequately—for the transcendence of the world as over against human consciousness.

Hence to the degree that the transcendence of the world over consciousness had to be admitted, at least relatively, it was necessary to prove the existence of an absolute from the nature of the world, in order to preserve the illusion of the absolute from the danger of contradiction by the real world. It was realized that a proof based on the concept of God could prove only his existence as a concept; his real existence could only be smuggled in. The proofs that St. Thomas provided for the existence of God therefore signify the utmost in the metaphysical safeguards of theology. Later attempts (Descartes, Hegel), which return to the original argument of St. Anselm of Canterbury for the existence of God, already rest on the substitution of a general world spirit for the absolute divine spirit. And this kind of idealism indicates that the all-embracing reality of God will no

1 From the author's book *Zur Erkenntnistheorie der konkreten Dialektik,* Paris, Editions-Excelsior, 1934, pp. 157-171. Translated by M. S. with the author's permission.

longer be sought, because only the sphere of *human* creations now shows that degree of uncontrollability which makes it necessary to imagine the existence of God.

It is of the greatest interest to Marxism to resolve the Thomist hypertrophy of idealism, for only in this way can the element of relative truth in the idealist description of the process of knowledge, *i.e.* the character and degree of the reaction of mind on matter, be securely stated. It is therefore led to refute the proofs of St. Thomas. It can do this by revealing the historical factors which must lead to illusion (the existence of an uncontrolled sector in nature and human society), and by explaining the practical effects of this illusion on concrete reality, since the controlled and the uncontrolled sectors meet in a thousand points and pass into each other. But because of the great social importance of these ideologies, which are partly reproduced through the persistence of the originating conditions and are partly maintained by force through institutions which support the ruling class, Marxism must also show how their origin in illusions affects even the proof and its consequences and makes them untenable.

The peculiarity of the Thomist proof of God lies in the fact that it proceeds from an external world independent of human consciousness, establishes the essential being of this world as the principles of an ontology, and then passes from this ontology to theology. In our refutation we will refer to the account that Maritain has given of the ontology in his book *Antimoderne-Ultramoderne* and to the proof of God's existence as formulated by Thomas in the *Summa Theologica.*

The first question is: What are the ontological principles and what is their connection with each other? Maritain believes that he can establish as the simplest fact "which my eyes open to the world see, and which my understanding knows," that *there are things which exist.* Being contains essence and existence. Since there is being in all things and yet things are different from each other, it follows that "the concept of being is transcendental and analogical." The idea of being is drawn by my understanding out of the objects grasped by my senses. But once this idea is formed my understanding realizes directly (and not as a matter established through experience) the axiom of identity (each thing is what it is) and the axiom of contradiction (being is not non-being), the principle of reason ("All being is founded on being") and the principles of causality and finality ("Being not only is, but acts"). Of the relation between being and acting, it is held that "being presupposes becoming, and there is no change without a being which is changeable." From this follows: "Everything that moves is moved by another." There are stages of being, characterized by four propositions:

I. The more cannot arise from the less.

II. The cause has more being and perfection than that of which it is the source.

III. That which is not through itself (*per se, per suam essentiam*) presupposes that which is through itself.

IV. Everything that has being or perfection through participation goes back for its principle and cause to that which has this perfection in essence (*per essentiam*).

With that Maritain has taken us to the threshold which leads from metaphysics to theology, from comprehensible to incomprehensible being.

To this is to be said in criticism:

I. Maritain holds it as the simplest established fact that "there are things which exist," hence being must contain essence and existence. But he himself has to admit that the establishment of this fact depends on the eyes and the understanding. Therefore the first fact to be established directly is a relation between things and certain human faculties of knowledge; and it is only from the analysis of every single faculty of knowledge (bodily activity, the senses, understanding and reason) and their mutual relations that the *assertion* of the existence of the world is inferred as an empirically grounded truth, even if the *fact* of its existence (or its being) underlies all analyses and relations.

II. If with Lenin (see his *Materialism and Empiriocriticism*) I hold fast to the act of relating being (the world, things) and thinking (the single faculties of knowledge) as the point of departure, still unclarified materialistically or idealistically, I do so above all because it is of the greatest importance to distinguish from the very outset precisely what belongs to things and what to thinking. It can be shown, then, only that things *exist,* not that they *are, i.e.* that they have an essence together with, but separate from, existence. They have indeed certain properties. But these are imaged differently in our bodily activity than in our senses, and in these differently than in our abstract thinking or reason. The unity of things and the unity of the human mind compel us to unify these varied images, but the discovery of this unity is in principle an endless historical process and no longer a simple established fact.

Not only is the process of thinking subject to history, but even the things themselves which are the object of thought. The so-called essence which is fixed in the concept of being is not a persisting (being) but a changing (becoming) thing. And the relation of persistence and change is concrete in the sense that the relation itself remains only relatively constant in time.

In the supposed fact "there are things which exist" is already present, then, a factor which is the product of a complicated synthetic process of elaboration of particular faculties of knowledge and is therefore one-sided. But if we distinguish sufficiently the fact, which can be established empirically on the basis of all the faculties of knowledge, "that things exist outside human consciousness," from the statement formed from only several of these faculties, "that things have a persisting essence," the generality of the concept of being will be dissolved.

III. With it fall also all the conclusions that Thomas derives from his initial assertion. First of all, the following:

1) That the concept of being is transcendental and analogical. The fact of existence is an objective fact and indeed is always a matter of one and the same existence, so long as the concrete existence of things is in question. The concept of existence, like the concept of properties, is empirical. The fact of property is an objective fact. Essence, on the other hand, arises from the fact that one has omitted from the empirical properties everything that is changeable, and preserved what *at the moment, i.e.* during a familiar historical span, is constant. Such a concept can hardly be transcendental in the sense that it is a pure concept of the understanding; certainly not in the sense that it possesses any objective reality whatsoever in some state of existence other than the human mind.

2) That any axioms can be deduced purely *a priori,* by intellectual knowledge, from these asserted facts about being. The principles of identity and contradiction are used in order to form the concept of "essence"; hence if it is asserted that they can be deduced from the latter, the argument is clearly circular. And if a metaphysical concept of becoming is constructed—and this has happened with exactly the same right, or wrong—from the empirically established properties on the basis of their changes, the whole logic of identity falls with it.

Exactly the same holds for the supposed principle of reason: "All being is founded on being." The "existent" things have only been hypostasized into "being."

In summary we can therefore say: In proceeding from a world independent of consciousness the Thomist has made a synthetic judgment, but instead of taking account of the limits of its validity by a thorough analysis he has asserted that he has "established" an absolutely valid fact. It was possible, through analytic judgments, to take out from the synthetically acquired concept ("essence") what had been put into it; obviously these analytic judgments would be valid to the same extent that the synthetic judgment was justified. But that is something altogether different from the assertion that *a priori* principles can be derived from the "established fact," which in reality is only an hypostasized concept. We can see very clearly then how the human mind does not stick to the independent world while acting upon the latter, but arbitrarily passes beyond it. In doing so the mind transforms the dialectical relationship, which holds between existence and consciousness in the process of knowledge, into a dogmatic relation based on a limited act of thought which insufficiently exhausts the facts.

IV. The next step in the sequence of thought—the supposedly deduced principle of causality—deserves a special consideration, for it stands in the center of Thomist theology of which the fundamental proposition reads: God is the first cause and the final goal of the world. Here too we will see clearly enough how the "clerical imposture" of absolute idealism has been effected.

They are compelled first to return to the experience of the real world and to establish that: "The existent (*i.e.* the concrete thing) not only is (*i.e.* not only persists in its essence) but acts." The problem here would be to determine whether the activity in every single case is bound up with existence or the properties, or with both, or with neither; whether the activity can create simply new existence or only changes in existing things—in other words, what the range of activity is. Instead, an entirely abstract question is posed: what is the relation of "being" and "activity"? But since being as such and activity as such are only concepts, they have only a conceptual relation to each other. The subject who has freed himself from things by an act of abstraction can now also determine with a complete arbitrariness whether he will let being precede becoming or becoming precede being; whether he will attribute to activity an absolute significance in the sense of positing an existence, or a relative one in the sense of bringing about changes in existing things. Concrete experience supplies this incomplete thought with as many (or as few) supporting arguments for the priority of becoming as for the priority of being.

What is essential in the process is clear. Instead of having the human mind determined by things, the latter are regarded as determined by the mind. The materialistic theory of knowledge is converted into a realistic[2] (or idealist) theory, because the concrete problem has not yet been reached. Lacking patience for the endless process of thought the Thomist attempts to solve all problems together by a short cut, in an imaginary way. But since the particular content has already been lost in the act of abstraction the concrete world is replaced by something imaginary, by the *a priori* creative spirit (mind), independent of the world.

I have shown up to now that the transition from the empirical world to Thomist ontology is not necessary in itself, that a one-sided and hypostasized abstraction of the understanding has been smuggled into a supposedly empirical assertion of fact, in order to deduce from it subsequently the principles of reason —the very same ones, naturally, that had already been assumed in order to make possible the passage from a materialist theory of knowledge to a realist one. I will now show what value the transition from ontology to theology has.

V. After "being" has been ascribed *a priori* the precedence over "becoming," it is then inferred that every thing that moves is moved by another. This deduction contradicts experience. Purely mechanical movement already teaches that its result is not determined by the impelling bodies alone, but by the interaction between the impelling body and the body that is impelled. Not the "cause" but the release comes from the other object; there is no one-sided sequence of cause and effect, only an interaction.

The false interpretation of the concrete interaction proceeds from very far-

2 In the scholastic sense.

reaching assumptions. Matter and energy have been tacitly separated from each other, and thereby a whole, of which the motion followed from the internal relations of its own immanent energies, is converted into single things at rest, which are simply impelled by an external force. But this conception has no adequate basis in the facts. On the contrary, modern science teaches us that absolute rest is an illusion which springs from the fact that we falsely interpret rest as relative to a system of reference, since we cannot observe the movement of the latter directly; and that energy and inertia ("live" force and matter) cannot be separated from each other in reality but only in thought. The *metaphysical* concept of cause rests, then, on a defective understanding of physical facts and is therefore completely shaky. But with this also breaks down the proof of the existence of God, which poses the question of the first cause (God) precisely by assuming the existence of an external cause.

VI. But all these abstractions of a vagrant reason are nothing beside those which lead to the characterization of the four stages of being. We must inquire first whether what appear as stages of being are not really stages of activity. It would then be a case of transposing empirical gradations of activity to "being," which would be all the less permissible since "being" has already been given the priority over activity. But whatever their empirical origin, and whatever errors might occur in the transposition from the concrete to the abstract, it is sufficient to consider the four propositions in themselves and in connection with their assumptions and consequences in order to show their untenability.

Proposition I, "The more cannot arise from the less," says that nature cannot progress or develop by itself. If one adds proposition II, "The cause has more being and perfection than that of which it is the source," it would follow that nature left to itself could only decay. The eternal existence of God is thus assured beforehand—since a development of the world cannot be denied.

Theologically the two propositions signify that man could not have created God and that God as the creator of man must have a greater fullness of being and of perfection than his creature, man. All this follows from the deduced principle: "Everything that moves is moved by another." But, obviously, all these inferences are possible only if a God is already presupposed and if, on the basis of this assumption, the interaction is interpreted as a one-sided relation of an external cause and an effect, whereas these propositions, on the contrary, are the assumptions used in proving the existence of God. For when the fiction of God is left aside there follows simply as the next consequence the scientific proposition of the conservation of energy—neither more nor less of God, in fact no God at all.

The "clerical imposture" attains its highest point in the two other propositions. In nature—its existence once given—nothing arises from itself but from what resembles it, and the latter's relation to the surroundings. It therefore pre-

supposes a temporally prior cause (like the child with its parents); or, stated scholastically, the existence of a thing does not spring from its own essence. From which it follows that the existence of things finally goes back to something which derives its being from its essence, or, more precisely, of which the being and the essence are identical. But how do we arrive at such an idea? Our bodily and sensory knowledge of the world shows us things which are changing, but which persist during this change. They therefore give us indeed a *relative* justification for separating properties and existence (essence and becoming), but we know no single thing that does not possess both properties and existence together, and in which single properties are not passing away and others arising. Existence is therefore as much tied up with what becomes (passes away and arises) as with what persists. Only when persistence is isolated and hypostasized, and an "essence" is constructed out of the concrete and dialectical unity, does it become possible, as a result of this metaphysical, one-sided act of abstraction, to separate the being and essence of things in an absolute manner.

Such an objective distinction in things, going beyond the merely conceptual distinction, does not follow logically, however, from the experienced world; but the appeal to the concrete dependence of things upon their own kinds serves only to obscure the method of reaching the result. The purpose is evident—to imagine an existence in which being and essence coincide, namely, God. Mankind compensates in fantasy for its weakness in nature and society, which is the final root of the entire process, and creates for itself in imagination the salvation which it cannot yet create through mastery over reality.

VII. The proof of Thomism requires the following further propositions: There can be no endless chain of causes, hence there must be a first cause. But in such a cause being and essence necessarily coincide.

As long as man accepts the existence of the world as given, his problem, in general, is not to find an endless chain of causes but the *general* cause of an endless process of human knowledge, a cause to which all the changes in existing things may finally be referred as to their common denominator. Whether there is only *one* such general cause, only science can gradually establish by concrete investigation. The problem of the first cause has altogether no scientific sense, it rests only on the metaphysical question: why is there after all something and not nothing? One must admit that this question will remain no matter what the sciences may discover about the origin and the most general cause of the world. But man will finally have to realize that even God gives only a verbal answer to this question and no explanation; and that this answer contains so many fictions and illusions that our need of causality can hardly be satisfied with it.

Yet even if we granted the justification of the question—why after all is there something and not nothing?—the "first cause," in which being and essence are supposedly identical, would exist only as a *requirement* of human consciousness,

i.e. as a subjective idea or heuristic principle. Nothing justifies us in making out of this requirement a reality above consciousness and transcending the concrete world. Here a postulate of reason is plainly enough hypostasized; after the human mind has been detached from things, its requirements and concepts have been detached from the mind itself and made into absolute, transcendent entities. We pass into a world of being which is tied to the world of existing things only through an arbitrarily determined analogy.

VIII. That in spite of the scholastic maxim according to which the more cannot arise from the less, God is nevertheless the creation of historically determined man, and not man the creation of God, becomes even clearer when we consider the nature rather than the existence of this God. Thomas Aquinas says first that man cannot know what God is. From this he goes on: that man can only know what God is not, and then, in conclusion, that God is all perfection in eminent measure and possesses in unity what in man is only sketched out and broken up into many properties. Yet by this argument man is revealed as the real starting point and the source of creation. If there is a problem here at all, it is this: how is it possible for man to imagine from his imperfection and relativity a perfect and absolute essence? But no speculative metaphysics is needed for its solution; the latter follows from the materialist, historical and dialectical character of human experience.

We have seen, then, that the whole Thomist proof is untenable because in both crucial points, in passing from the empirical world to ontology and in passing from ontology to theology, it already presupposes the consequences of its own proof and thus rests on a circle. This was naively taken for granted by one of the greatest of thinkers because the existence of God corresponded to the living interests of his age, which even the highest genius could not hurdle. And because these interests have changed we now see not only the circularity of the logic, but also the additional fact that the hypothesis of God proves too much and too little and is therefore plainly useless. It proves too much because every difficulty can—theoretically—be explained away by it, since we have fashioned for ourselves a magic word which instantly does away with all our shortcomings and barriers. But it proves too little because, in actual fact, it leaves everything where it was before, and therefore has to introduce, wherever the empty semblance of proof becomes practically dangerous, *causae secundae* beside the *causa prima* of God, in order to get around the contradictions between the notion of a completely perfect essence and the facts of experience (like misery and sin). This is a purely auxiliary hypothesis and reveals not only the fictitious character of the hypothesis "God," but at the same time the real power of man within the world.

Philosophy and Philosophizing[1]

BY FRANZ MEHRING

THE YOUNG Hegelians in whose midst Karl Marx awoke to philosophic self-consciousness are, not without reason, forgotten and, with perhaps one exception, unheard of; and this one exception only proves the rule. Bruno Bauer would have vanished from the memory of man as a revolutionary philosopher if he had not thoroughly investigated an historical problem of great importance.

Seldom in history has there been such a daring attempt as was made by these freethinkers who strived to free mankind from the 2,000-year incubus of Christianity and, consequently, from every incubus of oppression. But never before was such an equally bold attempt wrecked so frightfully. What shall one perhaps say of Rutenberg who at thirty introduced the young Karl Marx to Hegelian philosophy, and then collaborated with him on the *Rheinische Zeitung;* who ten years later founded the *National Zeitung* with the brave philistine, Zabel, and again twenty years later, when sixty, placidly passed away as editor of the Imperial Prussian *Staat-Anzeiger*?

If he had been the only one, one might have said the herd ought not to be held responsible for one black sheep. But all of these young Hegelians had a more or less similar tragic end, not because they were personally scoundrels, but because they were deluded by the "Idea" in which they saw, in accordance with Hegel's picture, the motivating force of historical development. Bruno Bauer became the collaborator of the *Kreuzzeitung* and the *Post,* not out of self-interest or particularly ignoble inducements. In this respect he remained proud in his honorable poverty. When the septuagenarian sent a collection of his articles, published in the *Post,* to a young friend, he wrote: "Now you might want to know how I am getting along, or the author of the enclosed trash ought at least to say what he is doing of importance. Well, he is the slave of a usurer. During the very cheap times of 1865 he bought land, about six acres. He took clay from the soil and burned it to make farm buildings. His brother, previously a bookdealer, cultivated the garden, but he was lacking in the severity and composure necessary for this kind of work. And so I have had to work like a giant since 1865 in order

1 Translated from the German by Rubin Gotesky. This article appeared originally in the *Neue Zeit,* Vol. XXVII, No. 1 (1909).

to pay the interest on the borrowed capital. The patience of the giant is now coming to an end." And a few years later the old man broke down completely.

Thus the Hegelian philosophy did not die in the young Hegelians, but on the contrary they died in the Hegelian philosophy. Marx and Engels were saved because they broke completely with the "old decrepit widow who ornamented and painted a body, shriveled into a most loathsome abstraction, and went about crying through all Germany for a freethinker." Of this philosophy they retained only the dialectical method which Hegel himself had taken over from Greek philosophy and which Marx and Engels stood right side up. But they dismissed once for all the "spirit-motivating" idea, and things of a like character. Engels later completely expressed their position in this sentence: "What is still left over of the entire previous philosophy is the study of thought and its laws—formal logic and the dialectic. Everything else has become the positive science of nature and history."

If we should disregard the question how far they themselves were responsible for bringing it along this path, history has shown them to be right, in that since the days of the *Communist Manifesto* and the Revolution of 1848 philosophy has not influenced in the least the historical development of the German nation, except when it squeaked along as a fifth wheel of the wagon of reaction. We disregard entirely the state established and paid professors of philosophy who naturally must do their duty, *i.e.* extol the ruling class. But concerning the other philosophers, whom one cannot deny to have been, in their way, independent minds, they have always jogged, scolding, behind the rolling wagon of history. One has only to remember Schopenhauer, Eduard v. Hartmann, Nietzsche. Certainly one must admit that Schopenhauer was a talented man, and Nietzsche a bit of a poet, but what was their position on the significant questions agitating their time? Schopenhauer rationalized concerning the Revolution of 1848 with the complete stupidity of a stunted petty bourgeois. Hartmann praised the law against the Socialists, and Nietzsche condemned socialism with the outworn commonplaces of capitalist exploitation, with phrases which a travelling salesman would hardly use at a beer table.

One can think of no more striking proof of this than that there is no future any more for this "entire philosophy of the past." Its reputation, to use the words of Marx, consisted in this: that it was the fruit of its time and its people "whose subtlest, rarest and most imperceptible flavor was expressed in the ideas of philosophy." Or one can even say of it what Lassalle once said of the parliaments of the great French Revolution, that it always stood upon the highest theoretical point of its time, that in its time no thought was authentic which had not moved its pulse. This applies as much to the Hollander, Spinoza, to the Englishmen, Hobbes, Locke and Hume, to the Frenchmen, Holbach and Helvetius, as to the Germans, Kant, Fichte and Hegel. And now compare the position of Schopen-

hauer, Hartmann and Nietzsche upon everything which agitated the German world in the second half of the nineteenth century.

It is true that within the bourgeois classes there has arisen a more or less strong opposition against them. Nevertheless, they have not known anything better to propose than flight into the past. At first it was: Back to Kant, and after this call died a natural death, there came the "Rebirth of Hegelian Philosophy" which was, if possible, even more nonsensical. Insofar as Friedrich Albert Lange undertook the trek back to Kant, he wished to get out of the misty sea of the romantic philosophy of the concept unto firmer ground. And now since this ground has shown itself to be so deceptive, the plunge back into the sea of mists ought to be the only salvation. But Lange, if he were still living today, would not have joined this retrogressive movement. He had much too clear and logical a mind! In his book concerning the worker and his problems he himself once estimated what would be the result of such a return to past ideologies. He showed, as after-effects of the Platonic and Aristotelian philosophies, how "certain men of high scientific understanding, who were rooted spiritually in the traditions of the nineteenth century, were deterred because of these effects from considering any fundamental change in social conditions"; in other words, they were political and social reactionaries. In other ways Lange showed the meaninglessness of any return to past ideologies through a sharp criticism of the materialism which Buchner, Moleschott and Vogt prescribed. This materialism, in fact, was nothing more than a stale concoction of French materialism which had once prepared the way for the French Revolution.

If ever there was born a man who could salvage philosophy in its traditional meaning of the all-inclusive crown of the sciences, that person was Albert Lange. Besides brilliant advantages of character and of mind, he possessed a special eye for the driving forces of his time, which was so entirely lacking in Schopenhauer, Hartmann and Nietzsche. But, for this very reason, he should become an even more powerful witness for the fact that all of this philosophy of the past has died and can not be resurrected again. All his criticism directed at philosophical idealism and materialism did not bring Lange to the "highest and final Doubt," or as Dietzgen so drastically expressed it, into a "most pathetic struggle with the snares of metaphysics." Without intending any slight to this excellent man whose memory deserves to be held in all honor by the working class, one may compare his philosophic thought to that cock which believed that by marking its beak with chalk it hindered progress. Although Lange knew the works of Marx through and through, he never had even a superficial notion of historical materialism. In his critical history of materialism he does not mention even by a syllable the materialist conception of history.

Can historical materialism, however, which is only a historical method, be an adequate substitute, to the proletariat, for philosophy, always taken in its

traditional meaning as a universal and closed *Weltanschauung* into which all the currents of the natural and material sciences flow? One meets here the well-known "need for metaphysics" which rises up everywhere; and it cannot be denied that such a need exists in the masses of workers. It is unquestionable that workers often develop a remarkably deep interest and understanding of philosophic questions. And indeed, the interest and understanding is deeper the greater the poverty out of which they labor to raise themselves. Also it can not be doubted that the satisfaction of this need is a powerful and essential means by which the working class makes itself more efficient and skilled for the fulfillment of its historical tasks.

However, this "need for metaphysics" has nowhere metaphysical roots. And it would remain dissatisfied even though a new philosophy was brewed out of the holiest and costliest surrogates of the old philosophies. It has, in every case, only historical roots, by means of which it is nourished and with which it dies. These roots, on one side, are the "metaphysical stuff" with which the brains of proletarian children in the public schools are oppressed, in the brutal and vulgar form of incomprehensible biblical texts and songs from the song books; and, on the other side, the soulless character of modern mass production, mechanical labor, which by its eternal monotony emancipates the spirit of the worker and leads him to philosophize over the meaninglessness of this existence, which from infancy has been impressed upon him as the work of a supernatural power.

Highly instructive contributions to these problems are found in a small collection of letters by workers which appeared under the title *Out of the Deep* (Morgenverlag, Berlin 1909). We give one example from the letters of Bergmann, who had worked his way up out of the lowest depths of the proletariat:

"I wish to be free from the dogmas of dualism dictatorially commanded, free from servility. My philosophy is the autocracy of the spirit. . . . Is this civilization, when the intelligence dies physically a horrible death? Is this humanity, when the soul goes hungry? When its desires thirst, languishing for beauty and power? I demand a remedy! The plow, the chisel, the trowel in the sinewy fist, but this fist belongs to a man. Watch over it! The pen, the lyre, the telescope belong to the cycle of the spirit. Do not forbid these! For the suppressed talent bitterly avenges itself. . . . Thought, in my world, is a cause of suffering, because through thought I know how needy and unfortunate I am. Were the veil of ignorance still over my spiritual eyes, truly my heart would feel only half as much the travail of earthly suffering. I have entered completely into the Marxist idea that economic poverty is just as much the basis for the degeneration of the spirit of a people as of their body, and that only a life halfway free from worry will allow man to blossom into a complete personality. How else could it happen that, until now, only the materially secure (I will not say absolutely, but relatively) formed the circle of the artistic elite? Whilst much

valuable talent was murdered under the base pressure of economic calamity, or better said, remained in embryo? Man is matter; is stuff; his spirit exists in a material organization and wherever physical nourishment necessarily has to be obtained only through externalized power, claiming everything, there falls away the spirit-enlivening element which fructifies the soul. Such a person, naturally, is absorbed entirely with the struggle around the ordinary problems of the stomach. He is, and remains, considered from this point of view, the animal in whom the spiritual personality is a farce. Here is found the great, ignominious and cardinal flaw in the multitude of mankind today." Although it would be tempting to transcribe pages and pages of these confessions of workers concerning their "need for metaphysics," this example ought to be sufficient.

One sees from this that modern workers, even when they—thanks to our honorable public schools—cannot write correctly, either grammatically or orthographically, nevertheless have understood old Kant very well. They understand how to philosophize, but they wish to know nothing of a single philosophy, whether it be the "dualism" of philosophical idealism or of the "ordinary problem of the stomach" of philosophical materialism. What they have "completely absorbed" is the "Marxist idea," *i. e.* historical materialism, which can in fact fully satisfy their "metaphysical needs" not through a new philosophy, but through a history of philosophy, written in accordance with the historical-materialist method.

It would not be difficult to write that history, for, as Schopenhauer correctly says, all previous philosophy revolves about certain fundamental ideas which always return. But *how* they return, out of what causes, in what form and under what circumstances, to determine this requires an ever more precise scientific instrument. And we will not be able to count on this for a long time to come. Therefore all the more ought we to avoid bringing philosophic speculation and playthings into the proletarian class struggle, whose metaphysical need, in its dark impetus, knows much better the right road.

Chronicles and Discussion

The Pragmatism of John Dewey

In the first issue of the *Marxist Quarterly* George Simpson, in his discussion of Theodore Brameld's review of Thalheimer's *Introduction to Dialectical Materialism,* cites me in order to support his contention that John Dewey's pragmatism leads into spiritualism and to much the same attitude towards religion that we find in William James. I wish emphatically to take issue with Simpson both on this general question and also on the relevance of citing me.

Simpson refers to Dewey's *A Common Faith* and to the title, "The Right Reverend Re-Definer," which was given my review of this book in the *New Masses* of October 2, 1934. If he had carefully read, however, either the book or the review he would have discovered that Dewey, unlike James, specifically repudiates all forms of supernaturalism—a repudiation which is of course implicit in his whole philosophy. Where Dewey agrees with James is in treating religious phenomena as important manifestations in human culture and well worth serious, objective study.

My whole quarrel with Dewey in my review was over what I considered his illegitimate use of such words as *God* and *religious*. In a later article, which Simpson may not have seen, in the *New Masses* of March 3, 1936, I made it clear that Dewey had not intended to take over the word *God* into his own philosophy, which has no more room for a Divine Mind than dialectical materialism. Dewey still does, however, hold on to the term *religious,* employing it in his own very special sense. If from this small fact Simpson can deduce that John Dewey believes in philosophical spiritualism and that his position on religion is substantially the same as that of William James, he is indeed a more remarkable dialectician than any I have yet encountered.

Another point that Simpson makes is that Dewey's *The Public and Its Problems,* published ten years ago in 1927, offers nothing but "blind, nostalgic panaceas" and thereby "crowns Dewey's social philosophy." But why does Simpson so neglect the more recent and very important, even if brief, book by Dewey entitled *Liberalism and Social Action,* which appeared in 1935? In this little volume Dewey becomes far more realistic concerning social problems than ever before. He writes in one place, for example, that "liberalism must now become

radical, meaning by 'radical' perception of the necessity of thoroughgoing changes in the set-up of institutions and corresponding activity to bring the changes to pass." More specifically: "Organized social planning, put into effect for the creation of an order in which industry and finance are socially directed in behalf of institutions that provide the material basis for the cultural liberation and growth of individuals, is now the sole method of social action by which liberalism can realize its professed aims."

Dewey proceeds to pay his respects to a considerable section of the American ruling class by pointing out that those who are always decrying the use of violence are often willing to resort to it on behalf of their own purposes in maintaining the existing economic system. He then goes on to make what is for him the momentous statement that when a minority refuses by violence to permit an authorized majority, relying on the method of intelligent action, to execute its decision, "Then force may be intelligently employed to subdue and disarm the recalcitrant minority." Such statements do not of course transform Dewey into a Marxist; but they do put sufficient backbone and realism into his liberalism to raise misgiving over Simpson's rather savage comments and to provide at least part of an answer to his question as to how Dewey's methodology of social change fits in with Marxism.

Coming to the more general question of the correct classification of Dewey's philosophy, I must register my surprise at hearing from Simpson that "The identification of pragmatism with Berkeleyan idealism is justified criticism of pragmatism's epistemology." I cannot see how such an identification is justified in any sense whatsoever, since Dewey has during the major part of his life waged an unceasing war against all forms of metaphysical and epistemological idealism. Simpson's notion that Dewey's criterion of truth is "workability" in the form of "enlightened self-interest" is indeed naive. If I may attempt my own simplification of Dewey's theory of knowledge, I would put his pragmatic test in the form of this question: Does an idea accomplish, in terms of concrete consequences, what it *purports* to accomplish? This test applies with equal relevance to an idea in the field of physical science, to an idea of purely personal self-interest, or to an idea concerned with the welfare of society as a whole.

It seems to me that the faults which Theodore Brameld quite correctly points out in Thalheimer's treatment of James and especially Dewey are perhaps partly due to the general attitude of contempt that Europeans have traditionally had for American culture and philosophy. Since Marxism has primarily been developed in Europe, leading Marxist thinkers have been affected to some extent by this same academic provincialism. Very few are the bourgeois philosophers in Europe who have taken the trouble to study thoroughly the thought of John Dewey; but equally few, I fear, are the *Marxist* scholars in Europe who have bothered to do this. And unfortunately certain American Marxists, taking too

much of a cue from their colleagues across the Atlantic, make the same mistake. I gravely suspect that George Simpson is one of them.

CORLISS LAMONT

Bourgeois Origins of Nominalism

Is the philosophical doctrine of Nominalism necessarily dependent upon its social origins? Did it arise as an apology of the bourgeois theorists? These are Edward Conze's contentions. In a paper on the "Social Origins of Nominalism," in the first issue of the *Marxist Quarterly,* he states that "Nominalist philosophy expressed the needs of the economic structure that began to shape itself at that time. In the seventeenth and eighteenth century, Nominalism was at the basis of the philosophy of precisely those thinkers who most ardently and clearly fought for the realization of a bourgeois conception of society. Could Nominalism from the very start have been an expression of bourgeois mentality? I think that we must come to this conclusion." But before we do come to any such conclusion it may be well to examine the premises and argument upon which it rests.

The thesis of the bourgeois origins of nominalism as stated by Conze contains two presuppositions: (1) that the bourgeois class and the Nominalist doctrine have always occurred together historically, the doctrine being a product of the bourgeois *mentality;* and (2) that the Nominalist doctrine stands in the relation of causal dependence to the bourgeois mentality.

It would, perhaps, be possible to show that the bourgeois class and the Nominalist doctrine have always occurred together historically. The Greek Sophists challenged the Socratic doctrine of the objective and independent reality of the Ideas, in favor of a subjective and psychological argumentative skill, requiring a logic unrelated to the question of reality but more fitted for the gaining of commercial advantage in the law courts and the marketplace. The Sophists were the earliest known Nominalists; from the little we know of them they seem to have been good bourgeois. Porphyry was the author of the *Introduction to the Categories* (of Aristotle), the book which first raised the question of Nominalism explicitly. But whether Pyrrho, the Greek sceptic, or Boethius, who wrote a commentary on Porphyry's *Introduction,* all of whom were Nominalists (third to fifth century), were themselves members of a bourgeois class, has not yet been determined. However, coming down to the eleventh century, Roscellinus, the first important Scholastic to hold the Nominalist doctrine, was a Churchman; to demonstrate that he was also bourgeois might be difficult. That the post-Occam Nominalists were bourgeois may be readily conceded, and it is on the latter group alone that Conze's historical argument rests.

The question is, however, just what does all this prove? Historical arguments to exhibit the necessity of logical relations cannot be valid, and historical arguments are all that Conze offers. Things that happen together do not necessarily belong together. To reveal that the Nominalist doctrine has always been held historically by members of the bourgeois class is by no means to prove the causal dependence of the former upon the latter. Nominalism is a logical doctrine, to which an individual or group of individuals may subscribe at any time. Even if Nominalism has *always* been held by the bourgeois, which has not by any means been shown, this would not prove that it *must* be so held, or that it could not arise or exist without the bourgeois. Conze has rightly noted the close historical association, at least in one period, between the two, but he has not demonstrated them to be inevitably associated. Can they be so demonstrated?

The question involves a closer logical analysis of the definitions of both Nominalism and the bourgeois. According to Nominalism, universals are fictions of the mind, a proposition which renders particular things ultimate and real, and ideas the mental interpretation of these real things. The bourgeois, as the class emergent between peasant and aristocrat, and finally itself the master, may be defined as the trading or mercantile class. Since this class is preoccupied with the exchange of goods with a view to material gain, how logical it is that Nominalism should seem to it a better philosophy than any other! The priority of material things and the corresponding unreality of ideas would seem to be the natural belief of a trading class. The problem of which gave rise to the other in fourteenth century Europe does not involve the admission of causal dependence or of any inevitable and necessary association. There would not be anything contradictory involved in the occurrence of Nominalism without the bourgeois, or *vice versa.*

It does seem, however, that in the rise of the bourgeoisie in the fourteenth century, Nominalism furnished the occasion. Nominalism started within the Church, as a protest against the rigid limitations put upon the discovery of universals by the narrow theological realism. Its effects were not confined to the Church but were far-reaching. This revolt, which was conducted by the Scholastics themselves, allowed for the establishment of many new beliefs and institutions. It gave a free hand to the early empiricists; it made Protestantism, individualism, liberalism and democracy possible. It gave rise to the middle class. Indeed it was the occasion for the beginning of the entire trend which took a firm hold on the succeeding centuries.

Logically and metaphysically, the problem of Realism versus Nominalism undercuts class affiliations. Membership in a class may be occasioned by a number of external and accidental factors, but in so far as this is a matter of deliberate and conscious choice, it is determined by interest. Now interest is predetermined by the belief in what is real, which in turn is the result of subscription to some

metaphysics. No one could devote himself to a lifetime of activity in a field which he did not consider of the utmost importance. It is a well-known fact that every profession is considered by those who practice it the hub of civilization. The fact that the middle class arose in Europe when it did, that it became the ruling class, and that it conquered the far corners of the earth, followed upon the acceptance of the prime reality of particulars, and hence of material wealth, as superior to universals, which according to Nominalism enjoy, if they are real at all, only a secondary reality. Thus the rise of the European bourgeoisie was occasioned by the change from the Realist to the Nominalist philosophy.

Conze's thesis, in somewhat modified form, may be accepted. Nominalism and the bourgeoisie logically are closely identifiable. They have been identified frequently in historical time. But there is no causal necessity about their identification; they may or may not occur together.

There are two grave errors in Conze's exposition which call for correction. The first error is to hold the Nominalists responsible for the separation of knowledge and faith. This separation was first made in the form of "revealed" and "natural" theology by Aquinas, in an effort to save the Church's dogmas free from questioning by the empiricists. Aquinas, who was a Realist, accepted Avicenna's decision regarding the status of universals. By making the Nominalists responsible for the distinction between knowledge and faith, Conze seems to hand the problem of universals over to the faith of the Church, and identify knowledge with practicality. Conze says: "Knowledge, as conceived by the Nominalists, aims at the control of events, and not at a knowledge of essential being. . . . The astronomer is not interested in knowing whether those orbits, epicycles, etc. which are hypothetically postulated for the purposes of calculation have an existence in *esse et secundum rem*. He is interested in the calculation, not in the real cause of events."

Such an argument simply ignores the history of science and is indeed unfortunate. A careful study of the science of the period will show that the early empiricists were not preoccupied with immediate practicality, which was left for those pseudo-scientists: the alchemists and astrologers. The empiricists were concerned with the real, but did not believe that it could be discovered, or its discovery confirmed, without a reference to the empirical sanction. Nicholas Oresme, as a matter of fact, devoted his life to the writing of polemics against the practical black arts. All of the great scientists of the period, from Nicholas of Cusa to Kepler and Copernicus, can hardly be said to have experimented with a view to the practical application of their results. Rather were they activated, as their writings assert, by an interest in the real structure of the natural world. Only, they thought the real could be found better by means of the empirical method than by the scholastic method. Although some of them mistakenly assumed that they were holding to the belief in the Nominalist doctrine, because their empiri-

cism had started from it, they did not follow Nominalism in their scientific procedure; they were true scientists and therefore also realists.

The second error of which Conze is guilty consists in taking Occam at his own word with regard to the principle of parsimony. Occam was a Nominalist, and therefore conceived the principle that entities must not be multiplied beyond necessity (Occam's Razor) as a Nominalist doctrine. Dogmatic Marxists are led into the psychologistic error of condemning all propositions enunciated by Nominalists as Nominalism; but such is not the case. A realistic proposition is realistic, whoever gives it voice. Now, it just happens that the limiting of entities to just that number which is required to "save the phenomena" is good methodological realism and not nominalistic at all. In the building of a self-consistent system of the universe, suggested by empirical data, no more of a system can be erected at a time than is required to explain all the empirical data. That is to say, science can expand its systems no faster than it can verify them. The reality of hypothetical entities, as required for the construction of an explanatory system, must be held down to an irreducible minimum. This is perfectly good scientific realism.

The failure of Occam's Razor as a nominalistic principle is plainly seen by Conze. He asks, "Why should nature be governed by the needs or limitations of the human mind?" Why indeed? But on the realistic understanding, this subjective aspect is eliminated, and the principle becomes required in order to govern the interpretation of an objective world. Conze's mistake is to assume that all the utterances of a Nominalist are Nominalism, and therefore to throw out the good with the bad. But a true statement is true whoever says it, and the distinction must be made. Many philosophers in recent times have seen the realistic implications of Occam's doctrine. Notable among these is Charles S. Peirce, who time and again avowed himself a Realist of the Duns Scotus variety. Scotian Realism is certainly opposed to Occamistic Nominalism; yet Peirce was sharp enough to see that Occam's Razor had perfectly realistic implications, and adopted it. C. E. M. Joad, the English Realist, is another, and there are still others.

The most important implication of Conze's article is one to which he never makes explicit reference. If the bourgeoisie and Nominalism are to be identified, then Marxist socialism becomes realistic by inference. Certainly there are realistic elements in the Marxist philosophy, in the writings of Marx and Engels themselves. But, in a forthcoming work,[1] I have sought to show that there are also strong nominalistic elements. For instance, the belief in the primary reality of the dialectical order of actuality, which consists of the movement of particulars, seems to lead directly to the belief in the primary reality of particulars—which *is* Nominalism. The assumption that there can be nothing valid except that which

1 *Christianity, Communism and the Ideal Society,* to appear in April (London: Allen & Unwin).

occurs in the dialectical order of actuality, further leads to a division of the real into the two epistemological categories of subject and object. All ideals, all principles, all laws indeed, all ideas, are held to be mental affairs; and the establishment of an objective category is deemed sufficiently shown once its non-mental nature has been demonstrated. The possibility of a third alternative: of a status of universals, non-subjective and non-objective, or in other words, non-actual: is either not envisaged or is thrown back into the mental category. Thus on certain Marxist assumptions, Realism is not admitted to be even a possibility.

Nevertheless, there are also valid realistic elements in the Marxist philosophy which cannot be denied. The dialectic, for instance, is not exhausted by the particulars which carry it, and moreover demands a hypothetical ideal, or true direction, in terms of which it wavers. Other ideals, such as the classless society, the withering away of the state, etc., are set up, which are not yet objective facts, but which are not mental fictions either, but definite possibilities. Eternal truths are admitted, at least by Engels, to exist, and Conze seems to agree with this understanding of Marxism when he quotes Lenin to the effect that the world is a "net-work of natural phenomena."

It would seem, in short, that Marx and Engels are much in the position of Plato and Peirce with regard to the realist-nominalist question. That is to say, they offer the student, be he a Realist or a Nominalist, specific passages in which his contentions seem to be supported. Marx and Engels can be read as Realists or as Nominalists, according to whichever passages are cited. It is my own view that they intended their doctrine to be realistically interpreted. Like all good Realists, however, they did not want their followers to fall victims of the realistic fallacy of suposing that there exists a crypto-materialistic heaven of reals of which the world as we know it is but a set of shadowy imperfections. Thus from time to time they were forced to hedge themselves about with cautions; and it is these cautions which lend the Nominalist appearances. Much eventually depends in an economic and political way upon which interpretation of Marx and Engels is adopted. We may hope that this interpretation will tend in the direction of a sober and modified Realism.[2]

JAMES FIEBLEMAN

2 A rejoinder to this article, by Edward Conze, will appear in the next issue of the *Marxist Quarterly*.

A Note on the Nature of Art

I

In the first issue of the *Marxist Quarterly,* Meyer Schapiro provides ample evidence of the social basis of abstract art.[1] It is difficult to see how the thesis which he opposes, the doctrine that art can be purely formal, can withstand his array of "correlations." But his own doctrine itself suggests very difficult questions, of which Schapiro may be very much aware. When we see him finding a social fact for every pictorial element, no question seems more relevant than this one: How is any social product less expressive of social facts than a work of art? That is to say, would Schapiro be able to see the same social facts in such objects as a pulp novel, a bank and a newspaper? Each of these is itself a work of art in some sense, but on the contrary, we also seem to find them somehow different from works of art "proper." The question concerns the line we draw; how could Schapiro justify the difference, or is it justifiable?

The simple answer might be just this: that an authentic work of art is better expressive and more expressive. It is so precisely because it is the product of a sensitive individual working in a medium which provides a wide range for perceptions and emotions. And again, it might be said that the medium of a great art like painting brings to an explicit surface values and motivations which are disguised in other social products. But here again there are difficulties. One remembers that the artist may be considered a special and complicated soul, not typical of the time. It might seem that the movie, because its appeal is so much more widespread, is much more expressive of the character of society than a picture of Picasso's. Furthermore, the movie may express in broader and clearer outline the social fact in question, especially to one with so keen an historical sense as Schapiro. So far as the explicit surface of good art is concerned, clearly there are many ways of being explicit, some of which are surely more likely in a factory or an automobile. What need, then, is there for the painting? Would Schapiro be unable to find any of his social facts exhibited elsewhere?

Obviously, Schapiro will have to say that the great work of art contains something which is lacking in other social products. It might be said that in his article he was merely concerned with displaying the social basis of abstract art, but on the other hand his article is entitled "Nature of Abstract Art." Suppose, then, we assume that Schapiro's method is based upon the doctrine that art is expression. It is the vagueness of the term "expression" which is at fault. We can say that the worn glove expresses the shape of the hand

1 "Nature of Abstract Art," p. 77-98.

which has worn it, and we can also say that a burnt matchstick is expressive of the character of our society. If expression is taken to mean "reflecting," "mirroring," "reproducing," then, as has just been noted, there will be the difficult question about which social products are the best mirrors. But Schapiro seems to hold a more complicated view of what is contained in the work of art. In the following passage, which would seem to be an excellent example of what he does, he says:

"Early Impressionism, too, had a *moral* aspect. In its unconventionalized, unregulated vision, in its *discovery* of a constantly changing phenomenal outdoor world of which the shapes depended on the momentary position of the casual or mobile observer, there was an implicit *criticism* of symbolic social and domestic formalities, or at least a *norm* opposed to these. It is remarkable how many pictures we have in early Impressionism of informal and spontaneous sociability, of breakfasts, picnics, promenades, boating trips, holidays and vacation travel. These urban idylls not only *present* the objective forms of bourgeois recreation in the 1860's and 1870's; they also *reflect* in the very choice of subjects and in the new esthetic devices the conception of art as solely a field of individual enjoyment, without reference to ideas and motives, and they *presuppose* the cultivation of these pleasures as the highest field of freedom for an enlightened bourgeois detached from the official beliefs of his class. In *enjoying* realistic pictures of his surroundings as a spectacle of traffic and changing atmospheres, the cultivated rentier was experiencing in its phenomenal aspect that mobility of the environment, the market and of industry, to which he owed his freedom. And in the new Impressionist techniques which broke things up into finely discriminated points of color, as well as in the 'accidental' momentary vision, he *found,* in a degree hitherto unknown in art, conditions of sensibility closely related to those of the urban promenader and the refined consumer of luxury goods."

The italics in this passage are, I need hardly say, my own. The italicized words not only display the ambiguity of speaking of expression: they also show how complicated and how inexplicit is Schapiro's notion of what is to be found in a picture. In the paintings of the Impressionists, he finds a moral resolution, an implicit criticism and a norm. These, as well as many aspects of contemporary life, are presented, reflected, presupposed, found and enjoyed. Now we can say that what we get in a picture is a *reaction* to social facts; and this will take the form of criticism which is implicit, or a norm. Or we can say that what we get is the social fact, part of which may be the reaction to other social facts. Or we can say that we get both, in an indivisible compound. If we take the latter two alternatives, we remain without a basis for saying that painting is somehow superior to the comic-strip (for, to repeat, both spring from the same social basis). What interests me is the first alternative; and it is only, I think, by investigating the first alternative that we can explain Schapiro's reference

to the *enjoyment* of the cultivated rentier. What we have to explain is this enjoyment, as well as the difference, in expressive character, between a good work of art and other social products. And the enjoyment may lead us to the expressive difference.

Imitation, in its most literal sense, would seem to be an irreducible element in the artistic act and the artistic product. We say: How true to life this book is! how profound! what insight! his characters are living! and these statements, crude as they are, make clear the imitative truth which is one of the things which we look for and which we find in the work of art. And there is a literal example of the sense in which a work of art is imitative. If one looks in the mirror, and only if one does, can one see what one's face looks like. Just so, the medium acting as a mirror, we can say that we find out what our perceptions, emotions and values look like in the various looking-glasses of paints or tones or words. And just as we can only see our face in the looking-glass, and in no other way, so we may say that some things can only be presented by means of one medium or another. Thus we may say that a work of art can be true and can be one kind of knowledge. What we get as truth in *The Divine Comedy* is not the doctrinal truth of Thomism, but the way the world looked to a medieval Thomist. Such a notion of the nature of art settles immediately the problem of belief in art: what we get is: what-it-is-to-hold-such-a-belief.

Now this expansion of the doctrine of imitation would seem to explain a good deal and to be one part of the truth. But it brings up the same difficulties as the more modern notion of expression (from which it probably does not differ very greatly). For the best imitation would be the best art, and we would probably have to say that James Farrell is a better writer than James Joyce (since the former is the more consistent reporter).

It is when we analyze out such an example as this, Farrell against Joyce, that we come upon a notion which will explain and clarify Schapiro's different attributions, presentation, discovery, criticism, enjoyment, etc. We have to say that Joyce is preferred to Farrell (or the converse, since dispute is perhaps conceivable) because the one introduces into his imitative perceptions an element of judgment or criticism or value, which is lacking in the other. Now it is possible, and it is important, to distinguish carefully between the expression of a social fact, and, on the other hand, a reaction to social facts which is made in the very act, and by means of, composition. There is a difference, for example, in describing a murder and including in your description the various attitudes, perceptions and judgments of the persons involved, and, on the other hand, in describing the murder in such a way that the values which you, the narrator, hold are focussed upon the facts of the description. Both descriptions will contain some element of valuation; but the second one will be a deliberate act of valuation. Thus, to shift to more extreme examples, a burnt matchstick or an auto-

mobile will both be expressive of social facts and social values. But a lyric poem or a painting will be expressive of a reacting valuation of social facts and social values. That is why the painting will be more interesting and more significant, as a presentation, than the automobile or the bank. The distinction is one of degree, but there are many degrees, going from the mere reflex of values to be found in an advertising poster, through the more partial and less typical reaction to be found in a newspaper editorial, and ending in the highly special, actively critical valuing, accepting and rejecting of social facts which is to be found in the works of a great painter, and which Schapiro is probably best equipped to describe.

Indeed, there is much in what Schapiro says which would suggest this distinction between what may be called the expressive and the critical-expressive. He says: "There is no passive 'photographic' representation . . . the scientific elements of representation in older art—perspective, anatomy, light-and-shade—are ordering principles and expressive means as well as devices of rendering. All renderings of objects, no matter how exact they seem, even photographs, proceed from values, methods, and viewpoints which somehow shape the image and often determine its contents." It is quite clear that Schapiro believes that the expression of value is one of the most notable aspects of the work of art. But this is attributed even to photography, and the differences in degree are not explicity stated, although, again and again, what Schapiro finds in his examples—and would not find elsewhere—is precisely the expression of an act of valuation upon the part of the artist, and focussed upon social facts: "By a remarkable process the arts of subjugated backward peoples, discovered by Europeans in conquering the world, became esthetic norms to those who renounced it."

On the other hand, Schapiro indiscriminately brings in other functions: "This new responsiveness to primitive art was evidently more than esthetic: a whole complex of longings, moral values and broad conceptions of life were fulfilled in it." And this notion of the *fufillment* or satisfaction of values in a work of art is repeatedly stated; while, besides this, there is in art merely the continuation on another level of activities, motives and satisfactions to be found in the social basis of the art: "It is, in fact, a part of the popular attraction of Van Gogh and Gauguin that their work incorporates (and with a far greater energy and formal coherence than the works of other artists) evident longings, tensions and values which are shared today by thousands who in one way or another have experienced the same conflicts as these artists."

It is to be noted that a fourth element—and there are more— is introduced in passing, namely, energy and formal coherence. Perhaps this is the way that Schapiro would distinguish between the expressiveness of different social products: the painting has more energy and formal coherence than the comic-strip. But on the one hand, it may not have more energy; on the other hand,

by making such criteria the distinguishing factor, the door is opened to the purists and the formalists once more.

There is no question of eliminating or oversimplifying the complexity of elements, functions and services which Schapiro attributes to the work of art. The point is that these elements cannot all be of the same importance. The paintings of Van Gogh may afford a vicarious satisfaction to the thousands who have experienced the same conflicts. Impressionist paintings may reflect the mobility of the market and industry. The fashion of primitive art may express a reaction to imperialist expansioin. Nevertheless, it seems likely that art is given such enormous attention because it contains some other element, not so readily available in other social contexts. This element, as I have already proposed, is the critical-evaluating focus which the artist directs upon his perceptions. And it must be insisted that this focus is interesting and significant only because it represents a new and individual reaction and response to social facts. Undoubtedly the focus itself is derived from some social basis; but if the artist is important, the focus will be literally an *imaginative* choice among the several alternatives which the social basis suggests.

There is no room to demonstrate at length that this focus is most immediately the artist's stlye and the forms which the artist adopts. Schapiro provides several fine examples: the Renaissance artists, he points out, embody an idealization of the human body by "artistic ideals of energy and massiveness of form . . . even the canons of proportion, which seem to submit the human form to a mysticism of number, create purely secular standards of perfection."

But I want to limit myself to the example in which the focus is, so to speak, self-conscious. We find in literature that there is a disinterested observer of the action, a chorus which comments upon the action, a friend of the family, the I of the story. Or we find that the story is in the form of a diary, or a series of letters, or, as in *The Waves* of Mrs. Woolf, the story is told by means of soliloquies; or the action is to be discerned in a "stream of consciousness." All of these formal devices, chorus or diary or disinterested observer, are means of getting the critical-evaluating intelligence into the action—but not *in* the action. In most works of art this factor is naturally less explicit, most frequently not explicit at all. But it is there, ordering the characters in terms of good and evil, distorting the usual look of natural objects, and sometimes showing itself in fantastic arrangements, far-fetched metaphors, and unheard-of chords. As a focus of values, it is significant only when it pervades social actualities—the artist, that is to say, must be a good imitator—but it is the imitation pervaded by the imagination of value, which is something not to be found elsewhere. It hardly seems necessary to repeat the Aristotelian dictum that poetry is something more philosophic than history—and archaeology—and that the dramatist is sometimes concerned with men as they ought to be.

There is thus a clear sense in which the work of art is an assertion of values —of values focussed upon actualities, values distinct from the values which permeate the actualities. The sense in which an artist can be a propagandist is clear, although there is still the question of how consciously the focus of values which are expressed can be chosen. In this light, the significance of a work of art such as *The Divine Comedy* is still: what-it-is—in specific experience—to-have-such-and-such-beliefs-and-values (thus, in a way, we learn the *consequences,* in actual experience, of certain beliefs and values, which, taken on the theoretical level, might appear quite differently). Whether there is a further criterion whereby we judge the focus of values which informs and integrates the work of art in terms of our own values is a separate question. It seems likely that this further criterion is unavoidable.

All of this may merely be a refinement, in more abstract terms, of Schapiro's doctrine; or it may not be. There are several passages which I want to quote as a conclusion. There is Hamlet's address to the players on the nature of art: "the purpose of playing . . . both at the first and now, was and is, to hold, as 'twere, the mirror up to nature; to show virtue her own feature, scorn her own image, and the very age and body of the time his form and pressure." From this, it is but one step to the doctrine of Matthew Arnold that poetry is the criticism of life. The two notions can then be seen together in Joyce's *Portrait of The Artist*: "Welcome, O life! I go to encounter for the millionth time the reality of experience and to forge in the smithy of my soul the uncreated conscience of my race."

Mirror, virtue's feature, criticism, the reality of experience and the uncreated conscience: it would seem that it is by separating these in discourse and seeing them together in the work of art that we can understand the pleasure and illumination which art affords us, as well as its importance in history and society.

DELMORE SCHWARTZ

II

The nature of art in general was not directly in question in my article, but the view common among writers and painters, that abstract art is released from historical contexts and society and is self-governed according to eternal laws of form. Whereas I tried to show how the abstract styles are conditioned by values and modes of thinking originating in a given historical society, Delmore Schwartz goes much further and concludes that the distinctiveness of art as such, whether modern or ancient, whether painting or literature, is to be found in the deliberate criticism and evaluation of social facts focussed in a special medium by the individual artist.

Before I comment on this theory, I must correct some of the views imputed to me. I did not, as Schwartz says, try to find a social fact for every pictorial element. Nor would I see the same social facts in a "pulp novel, a bank and a newspaper," or agree that the comic strip and abstract painting have the same social origins, though their causes may intersect. The difference does not lie simply in the greater or lesser expressiveness of certain of these fields, but in objective character of the media of the arts and in their functions, which are also subject to historical change. I was not concerned with social facts in general, for which I had to find the expressions or the symptomatic objects, but with the social facts relevant to modern painting, an historical field which had been described and evaluated as independent of social history. The same facts would not be relevant (at least, not in the same way) to the pulp novel, the bank and the newspaper. They might also be irrelevant to architecture, which had its special conditions and functions. Finally, my reference to certain artists as representing, reflecting, choosing, valuing and designing is no more an ambiguity of statement than Schwartz's concluding summary of art in general as "mirror, virtue's feature, criticism, the reality of experience and the uncreated conscience."

His own view seems to me inadequate in two respects. In the first place, he absolutizes a peculiarity, or better, an ideal of modern literature as an inherent, universal character of art. Secondly, in distinguishing the focus from the content or the values focussed, he detaches the form of the work—which he has identified with the focus—from the artist's values, and thereby makes the form an altogether independent or merely intermediate factor. In describing the process of creation as deliberately critical of social facts, he inclines toward a moralistic-intellectual view of art, which often entails a neglect of esthetic qualities.

Far from being an inherent principle of art, the deliberate, individual criticism and evaluation of social facts, the distinction of the social values of the artist from the values in the world he depicts, is a recently acquired function, and even in modern times does not appear in all the arts. It is a particular historical content which presupposes not only a secularized culture, but also the self-consciousness that in making a work of art, the artist is coming to grips with the world, is asserting himself as over against society, and perfecting his own nature as a human being by independently posing and resolving momentous problems of life.

Such a view can hardly be attributed to most religious art in the past. There the artist's critical reaction to his imposed subject matter is relatively unimportant beside the execution of fixed tasks. Even a work of great independence, like Dante's, still moves within a sphere of official doctrine and religious lore. He may include his private judgment of individuals and affairs, but the poem as a whole was not conceived or constituted in that sense; it was not a deliberate, personal revaluation of experience, although the elements of such an attitude are present.

The very existence of the arts of music, of architecture and the industrial arts, which do not represent nature and therefore cannot refer in a definite way to objects of experience byond themselves, must also limit this view. For how can we speak of a deliberate evaluation of experience in works in which the objects criticized do not appear and the values substituted are not explicit? Abstraction may be the result of a view of life, but the expression of this view is not necessarily the purpose of the picture. In fact, the view may never be present to the artist as a formulated judgment; it may simply be implicit in his practice and style.

But where art is directly a representation, the criticism of life may also be only implicit. And even where there is an overt judgment, the criticism will often appear less in the sententious, deliberately announced judgments than in the implications for us of the objects and events described, and of qualities of the work perceived in relation to the possibilities of our own lives. In the statement quoted from Joyce there is a program which is more comprehensive than his actual work, but also less impressive than the smaller, but richer, reality of his "artist's conscience," implicit throughout the book.

As our own art becomes more concerned with the criticism of life, the art of the past is read accordingly, and the implicit values, the traces of social affairs, and of reactions to everyday experience in the older works become increasingly evident to our newly sharpened sight. But to transform these into the conscious objective of past art, to make these traces and implicit factors the deliberate content of the art is to misread the works.

The difficulty in attributing a conscious evaluating function to all art may be illustrated by an example from the middle ages. In the paintings of the thirteenth century the Gothic churches are represented without the amplitude, the spatial complexity and the light that we experience in their interiors—qualities that no doubt were foreseen by the builders. Instead the buildings are shown without depth, as small, flat objects, not much larger than the individuals beside them. The focussing element—to use Schwartz's term—in medieval paintings of buildings does not permit us to infer the artist's individual reaction to the cathedral; this is evident even in the drawings of architects. Their professional pictorial language had no terms for expressing these everyday perceptions. The painter's private evaluation of the building as an object of his environment was not one of the functions of medieval art, in which the environment of things was a secondary matter. He represents the building not according to his appreciation of its qualities, but according to the impersonal conventions of his art which subordinate the building to the religious personages. These conventions were probably related in their origin to some aspects of the cathedral itself, yet they make it impossible for the artist to present qualities of the building actually described in the literature of the time. The conventions were a method

of symbolization based on a peculiar view of man and nature, common in the middle ages; they can therefore also be regarded as evaluating or critical in a broader metaphorical sense. But the fact remains that they preclude the statement of individual reactions to the objects represented. Such reactions were not a matter for painting at that time; the representation of medieval buildings as objects of esthetic contemplation is rare before the period in which religion declines. Hence to infer from the medieval images of cathedrals that the artist appreciated in the original building only a few surface elements, that his values as an individual excluded a view of other aspects, would be false. Similarly, to suppose that this imagery is a criticism of the architecture, a posing of the artist's ideal as over against the actual object, would be absurd. The interpreter or critic of these arts has to discover their particular conventions and purposes before he can grasp the character of the values behind them.

In modern art—and especially in literature—where the representation may be a freely conceived individual view of things, Schwartz's definition becomes more pertinent. It is not only a description of the nature of art, but also the statement of an ideal in terms of which he distinguishes greater from lesser art. But the relation of the elements of his definition—the artist's values, the social facts, the focus—to the value of the work of art is not made clear. Is Joyce superior as a novelist because he has values and others have not? or because his social values are better than those of other writers? or is it finally because of the qualities of presentation, Joyce having a better "focus," *i.e.* a style or form, superior to the focus of others? Do we read Dante to-day because we share his values, or because we enjoy the qualities of his imagination and his poetic vigor, the flexibility of his perceptions within a rigidly schematized world? Judged by his religious views and philosophy, Dante could not interest us much, except as an historical document; and this was indeed the attitude of writers of the eighteenth century. Considered practically, however, from the viewpoint of production, the poetic qualities are finally inseparable from Dante's values and subject matter; he could not have created such a poem unless he had, among other things, this comprehensive view, an ordered religious world, and his secular qualities as a Florentine burgher. And even our judgment of the abstracted poetry of his work constantly presupposes our sympathy with his view of human nature, and also our capacity to re-imagine the feelings and actions he describes.

In admitting that it is necessary to find criteria to judge the integrating focus which judges the objects, Schwartz seems to isolate a non-ethical peculiarity of art, in the sense of the formalists. This concept of focus is metaphorical and somewhat obscure (perhaps because of the necessary brevity of statement). It designates not only the activity of concentration, but also the medium; it is used in a third sense as well, as the product of the interplay of the medium, the artist's values and the process of creation, since the focus is finally revealed as

the form of the work. At any rate, it is unclear whether the focus is the cause of the integration of the work or is that integration itself. And since the form is also expressive, bearing evident traces of the artist's values and mind, the distinction between the critical values and the focus becomes even more uncertain.

To avoid the dangers of formalism, he seems to limit the form to an intermediary function; it is simply the power of focus, the strategy of presentation of more serious values. It is like the lines and columns in the ledger, the framework for orderly computation and balancing of receipts (the social facts) and expenditures (the artist's values). Yet this focus remains finally the distinguishing aspect of art, since there are other fields of criticism and evaluation.

If focussing is simply the private imagination through which individual values are trained on the social facts, art is not different from the social sciences, or from ethical analysis; for science and moral reflection, in fact, any activity that refers to values, have an imaginative part, affected by the personality of the being in question. From another viewpoint it might be said that compared with logically made criticisms, the evaluation of life within a work of art is relatively unfocussed. The work of art is more focussed with regard to the perception of the qualities of things and of its medium, less with regard to the possibility of a deliberate judgment of its represented object. We may even forget the latter, as we do before exotic religious works, and yet feel the greatest satisfaction before the qualities of the imagery.

When art is viewed as primarily a criticism of life, another focus is neglected, the professional consciousness of the artist. An artist begins by having to make, by a given technique, either for himself or at the command of others, a kind of object—a poem, a picture, a story or a building—very specific and traditional, with well known properties and its own conditions of perfection. This activity is itself a satisfaction and a personal value which already gives some direction to the work, though it is affected more massively by tasks imposed by an institution or by social functions of the art and by necessities arising from the artist's life. Whether the artist is consciously evaluating an independently selected material or making an icon, his unconscious disposition, his energy of imagination, his skill and sensitivity, all shape the final result.

MEYER SCHAPIRO

Reviews of Books

The Philosophy of Aldous Huxley

EYELESS IN GAZA, *by Aldous Huxley.* New York, Harper & Brothers, 1936: 473 pages; $2.50.

A large majority of the reviews of *Eyeless in Gaza* gave the impression, in a very distinct if not always explicit way, that it marks a new phase in Aldous Huxley's development, and one which is somehow discontinuous from the earlier. Since Anthony Beavis has been very generally taken, and for very plausible reasons, to be a new sketch of Huxley himself, the obvious implication is that Huxley has suffered a radical conversion. But the process through which he has in only two years turned so remarkable a somersault is left unfortunately unexplained.

It is readily granted that we may speak of a "new phase" in Huxley's development, with the qualification, however, that it is not without antecedents in the past but is rather a fully continuous development. This new attitude defines itself as a need to express his positive moral and social faith. As we trace it from *Point Counter Point* through *This Brave New World* to *Eyeless in Gaza,* it seems that Huxley has become progressively conscious of a responsibility which until then he had ignored. And this was to be expected. For a full-blooded moralist such as Huxley has always been, a man of genuine philosophical interests, was bound sooner or later to feel that the negative attitude which has given him his reputation was not stable, and that his skeptical approach could not be maintained under the louring political conditions which he, as well as every one else, has been confronted with. Sooner or later he had to come up to the problem of offering a solution of our contemporary difficulties. And for his contemporaries this is no doubt the main interest of *Eyeless in Gaza.*

Some reviewers have suggested that this may be its only value, since Huxley is to be thought of as a philosopher and not to be considered seriously as a novelist. And there is no doubt a good deal of justification in this view. But no one can afford to neglect the technical aspects of *Eyeless in Gaza,* however little he may himself be interested in the development of the form of the novel, for it throws a great deal of light on the content of his thought. For why has Huxley

found it necessary to break up the time order of his narrative as he has done in this last book? Time is one of the basic and primitive principles of objective order in social experience. How is it possible then that at the very moment when he feels compelled to give us a positive statement of his social faith, he also feels compelled to abandon one of the most basic principles of objective social order? There is no doubt that we have unearthed a most serious contradiction. These notes will seek to show that the inadequacies of Huxley's newly formulated creed —inadequacies which we will take for granted for they were pointed out very clearly by a large number of reviewers of *Eyeless in Gaza*—can be traced to the confusions to which this contradiction gives rise.

In order to make clear the full import of this contradiction it were better to state it in slightly different terms, and from a slightly different point of view. Let us remember that intelligent social action demands an objective theory of the self, and one capable of justifying the belief that one may become an intelligent and effective factor in social change. But how can as extreme a subjectivist as Huxley, one who is willing to throw up as he does the most basic principle of objective order in nature and in social experience and in the private experience of the self, how can he justify the belief in the effectiveness of the self in social activity? Subjectivism is certainly no springboard for an intelligent social philosophy.

That Huxley is a thoroughgoing subjectivist is not difficult to show in his own words. The following few lines from his discussion of personality in *Eyeless in Gaza* are sufficient evidence:

"Now human experience is analogous to matter. Analyze it—and you find yourself in the presence of psychological atoms. A lot of these atoms constitute normal experience and a selection from normal experience constitutes 'personality' . . . "

After developing this notion for four pages, he comes to this conclusion:

"So what *is* personality? And what is it not? It is *not* total experience. It is not the psychological atom or instant. . . . It *is* feeling and thought. . . . "

These quotations speak for themselves so clearly that they hardly need commentary. Throughout his whole discussion Huxley considers personality in utter isolation from the world in which it is found. The passing reference to the fact that our personality is often "made for us by the collective unwisdom of a class, of a whole society," carries no weight in his conception, since the destructive implications of this remark for his theory of personality are not even remotely suspected. For him, personality *is* feeling and thought. But feeling and thought, let us carefully note, so conceived that no effort is made to account for the content of that feeling and the material of that thought. For all he informs us, they might be miraculously self-generated out of nothing. Had he made the effort he could have easily seen that personality is not feeling and thought alone. For if we

regard personality *in* its world we see that it is also activity, and only through that activity can its continuity be fully grasped and its content and material accounted for. Personality is then feeling and thought; but it is also activity *in* a world in which personality is more or less continuous through the flux because the mutual interaction between the organism and its social and physical environment is continuous throughout its whole life, and the impact of that interaction is palpable and visible and leaves durable traces on intangible things as well as on solid ones. Leave the world out of account and the interaction between the organism and the world, and feeling and thought become the high mystery which until recently they have been for philosophy and for psychology.

This conception of personality championed by Huxley is one of the radical errors of modern philosophy—indeed it is not too much to say that it is one of the radical errors of the philosophic tradition of the West—and the polluting source from whence most of the pseudo-problems which make up its heavy burden emanate. Theory of knowledge and moral theory are infected at their roots by the isolated notion of the self. And this is the reason why these technical questions have to be brought into a criticism of Huxley's faith. An analysis and evaluation of that faith is not complete unless we set it up against the background from which it springs. Perhaps we can now see more clearly that the incoherence already noted between Huxley's subjectivism and his need for an objective world in which to carry on his work as an artist and in which to fulfill his moral urges, can be traced to a defective and vicious conception of personality. The disregard of the world which is involved in an isolated notion of personality carries over, when that personality answers the demands made on it by our contemporary world for responsible social effort. And perhaps we can also see clearly the source of Huxley's willful disregard of the environment, which he believes need not be touched in order to change a personality, which he thinks is made up of isolated feeling and thought. And we can also see, in its full import, the reason for his lack of realism and for his reliance on mystic hocuspocus and on the pseudo-heroics of non-resistance, to which Huxley finally has recourse when he attempts to state his positive faith.

Until one traces his new faith to its intellectual sources, one wonders how the author of *Point Counter Point,* the polished ironist, the pitiless observer of the human insect, could come to accept a doctrine as soft, as sentimental and as unrealistic as that proposed by Anthony Beavis. And only then is one able to account for the vulgarity of the arguments through which he rejects the efforts of his contemporaries to construct a better world. That vulgarity, like all intellectual vulgarity, has its source in his failure to penetrate to the basis of important beliefs. And yet there is no excuse today for as well read and intelligent a man as Huxley to accept a theory of personality as defective as his, and one which has been so thoroughly criticized and, in responsible quarters, so long ago aban-

doned. But in the light of its acceptance we need not be astonished to see the old chargers of reaction and the caked dichotomies and the screechy concepts which make up the rusty artillery of academicism, brought out by a man as sensitive and as intelligent as Huxley, to tramp on, and to boom against, effective and realistic social action. There they are, the abstract insistence on the fact that ends do not justify the means, the obviously ignorant belief that the end of political and economic reform is to bring about an abstract and unconditioned "love" among men; the willful and ignorant identification of Nazi barbarism with the Russian system in spite of their important and obvious differences; the vicious dichotomy between what a man *is* and what he does: the long and dreary procession of vulgar errors, dead mummies on parade, today so easily shown up that it is no longer worth doing it among intelligent men, mummies exhumed by Huxley from the forgotten tombs of obsolete philosophy, to justify his dislike of the desperate efforts of some of his contemporaries to build a better world, in which the values which Huxley tells us he believes can really flourish.

Claiming to be an advanced man and a thinker of some depth, Huxley does not yet know that means and ends are continuous, and cannot be judged abstractly but must be judged concretely, for the Nazi barbarians who are threatening the values in which Huxley and we believe are anything but abstract in their ruthless hatred of them. Pretending a right to pass judgment on political questions, still Huxley is so ill informed that he does not seem to have heard that "love" among men may be a desideratum of well-fed sentimentalists, but surely not the end of realistic political action, for the end of realistic political action in our day is to rear a material structure of rational production and distribution, through which men can develop their full statures as human beings. Assuming to himself the right to criticize dictatorships, still Huxley, in entire disregard of easily available facts and of their obvious implications, identifies in his mind a worker's state, addressed in however bungling a manner towards democracy (and who will deny that the manner is bungling indeed?) with a fascist state, based on a fundamental, intransigent and brutal repudiation of democracy. Permitting himself sociological opinions, Huxley does not seem to know that the tensions and stresses of society are not only not bad in themselves but desirable, and in any case they cannot be done away with, and the contemporary problem therefore is not to seek to eliminate them, but to chain them and harmonize them into a dynamic and progressive pattern. And lastly, claiming our attention as a psychologist, still Huxley retains the basic assumptions of a pre-scientific age, and insists on a distinction between doing and being, which makes personality totally incomprehensible and fantastic.

If *Eyeless in Gaza* is a statement of Aldous Huxley's positive faith, the conclusion of a critical reader must be that his faith is a pretty paltry affair, inadequate both theoretically and practically to the social predicaments from which

it springs and to which it means to apply. That such is the case, it is not the object of this paper to show. What this essay has attempted is to trace the inadequacy of that faith to its source. And its source, it was pointed out, is a false conception of the nature of personality, a subjectivist conception, which disregards the undeniable connections between the self and its environment. But let us note, before closing, that it is only the intellectual sources of Huxley's errors that we can discuss. There are good reasons for suspecting that there must be psychological factors cooperating with the intellectual errors discussed, in keeping Huxley's vision dark regarding truths which for many of his contemporaries are already commonplaces, and in keeping him grooved along basic conceptions which reflective men today see more and more clearly the need of abandoning. Knowledge of these psychological factors would be of practical as well as theoretical value, for Huxley's case is not an altogether isolated one, and more than one man finds himself today unwittingly giving comfort to forces he despises for reasons which are ultimately as obscure as they are subjective, and hence, we may presume, if adequately analyzed, forces which will appear irrelevant and not difficult to deal with. But whatever these psychological causes may be, only by a persistent and determined effort to think through to the roots of his intellectual presuppositions will Huxley be able to arrive at a positive faith relevant to the modern man and his predicaments. Anything else than thoroughgoing thinking will not do it. Sensibility to contemporary events alone will not do it. Of such sensibility Huxley has always given abundant evidence. But that it is not enough, we know from the pseudo-faith to which it has lead him: for our contemporary predicaments will not be resolved through the mystic hocuspocus of Dr. Miller, who would save the world with chiropractise. Nor will they be resolved by the operatic heroics of Anthony Beavis, who satisfies his conscience by standing a little heckling from the fascists to whom he preaches "love." And not until Huxley shows himself capable of thorough thought can he hope to occupy the position to which his undeniable gifts entitle him, and for which in his last book he seems to bid. Until now Huxley has shown himself capable of expressing in a prose as distinguished as any written in his own day his sensitive moral reaction to the pathetic antics of that one half of one per cent of our world among which by personal endowment and tradition he belongs. This ability has given him a high place in contemporary letters. But his ability is not enough for the task he now proposes to himself. If he wished us to take his positive faith seriously, he has to abandon the comfortable and caked dichotomies on which the older order of thought rests—an order which he rejects, we know, and which we learnt to reject partly from him. Whether he shall exhibit that ability remains to be seen. Until he does he remains what until now he has been: an important but essentially negative force.

ELISEO VIVAS

Marx and Hegel

FROM HEGEL TO MARX. STUDIES IN THE INTELLECTUAL DEVELOPMENT OF KARL MARX, *by Sidney Hook*. New York, Reynal & Hitchcock, 335 pages; $4.

It was thirty-five years ago, in 1901, that Franz Mehring published in three volumes a large collection of the writings of Marx and Engels during their formative years 1841-50. Mehring added a number of brilliant commentaries on the personalities and on the intellectual atmosphere of those vital years. From 1929 onwards, D. Riazanov and the Marx-Engels Institute in Moscow published another collection of Marx's early writings which until then had remained unknown. When the first volumes of the great Moscow edition of the collected works of Marx and Engels appeared, they created a sensation among German socialists. Some of them, the orthodox Marxists, were both surprised and gratified to find that Marx had already answered in his youth the philosophical arguments of their opponents. The revisionists, too, did not hesitate to make use of the new material. They seized on the more immature and "pre-Marxist" ideas in Marx's early writings. Some of them "revised" Marx so far backward that the "real Marx" became for them a sort of second Schlegel, inspired by a *romantic* reaction against the inhumanity of capitalism. The later development of Marx, after 1848, appeared to these revisionist extremists as a sheer misunderstanding of Marx's original intentions by Marx himself, and *Das Kapital* stood condemned as a miscarriage. I still vividly remember the solemn discussions which raged in Hamburg in 1932 around these problems, and it sometimes seemed to me that not only the world but also texts can be a looking glass in which everybody sees his own face.

As idealist philosophers cannot fail to return again and again to an interpretation and re-interpretation of the classical trend of thought, so Marxists cannot afford to ignore the wealth of ideas contained in Marx's early writings. Marxist economics cannot be isolated from Marxist philosophy. At every stage of his analysis of fundamentals the Marxist economist meets with postulates which are derived from Marx's moral and social philosophy, and from his dialectical method. It was in the seven years which preceded the *Communist Manifesto* that Marx worked out and justified his philosophical postulates. A Marxist who is unfamiliar with the work Marx did in those years has little chance of fully understanding and of fruitfully developing the teachings of the great thinker.

Sidney Hook has done a great service to Marxism by making the Anglo-Saxon public acquainted with the basis of the Marxist tradition. His book,

roughly, falls into three parts. In the first part he discusses the relations, positive and negative, between Hegel and Marx. The second part, about one half of the book, deals with the "left" Hegelian contemporaries of Marx: D. F. Strauss, Bruno Bauer, Arnold Ruge, Max Stirner and Moses Hess. The third part is devoted to Marx's relation to Ludwig Feuerbach, and it contains an admirable commentary on the famous Theses on Feuerbach.

The exposition of Marx's intellectual development is helpful in a twofold way. (1) Hook carefully describes what ideas were held by certain groups of people in the Germany of 1840-48; his painstaking work makes it easy for readers to familiarize themselves with the ideological background of the period. (2) He makes clear, mainly by implication, that those ideas, apart from their relation to the Germany of 1840-48, have a meaning and significance for Anglo-Saxon socialists today.

Now, merely to praise a good book is a bad way of doing justice to it, and often indicates that one does not take it seriously. The critic might grumble about details in this book, but there are very few, however, to which he can take exception.[1] There are, however, two major points which concern fundamental issues of Marxism. One refers to Hook's treatment of the social basis of German intellectual life in the 1840's. The other consists of some reflections on the unity in Marx's intellectual development.

A. Many readers will regret that, apart from some casual remarks, Hook does not apply historical materialism to the intellectual development he discusses. He seems to justify his omission by arguing that a "knowledge of the social conditions of Germany of the 1840's is not sufficient although it may be necessary." He goes on to say that the different ideologies of the time cannot "be simply correlated with differences in class interests." True, but I would add that there must be some correlation although it may not be a simple one, and that this correlation might have been brought out more clearly.

There is in Hook's book, for instance, almost no reference to the way in which Marx's revolutionary opponents developed after 1848. Hook might argue that this was outside the scope of his work. To be sure, all scientific study must isolate. But can we isolate one period in a man's thinking? Can a Marxist tear out of their social context theories which lose half their significance and meaning in the process? Can he ignore the logic of the social conclusions which men like Strauss and Ruge themselves drew from their early theories? If Strauss and Ruge (and others) were wrong, it was their social position which blinded them to

1 For instance, on p. 223 Hook says that Feuerbach "had a complete grasp of the psychological processes by which man forgot the human origin of his own creation." I take exception to "complete," since I believe that psychology has been put on a scientific basis only during the past forty years. Again, on p. 247, psychoanalysis is referred to as "a fashionable contemporary psychology." Marxists have nothing to gain from underrating the value of the contributions of modern psychology.

reality. In a brilliant passage in his *Zur Geschichte der Philosophie* (pp. 137-38), Mehring describes the accomodation to objective circumstances which made these men true exponents of the German middle classes. In their theories they were not only speaking *about* things and events but *for* definite social groups. I think that Hook's book would have gained if he had stressed less "the relative *independence* of the particular historical situation" of the "general logic" of arguments, but *in addition* had said more about their relative *interdependence*. As it is, Hook appears to describe himself when he speaks of the "philosophers whose professional concern with the formal relations between ideas has weakened their grasp of the social conditions within which these ideas functioned."

Because of that deficiency Hook also missed the opportunity of evaluating the degree to which the crippled social development of Germany affected the value that the ideas he expounds may have for our own age. Hook is right when he says that "the places through which Marx's thought developed recapitulate the difficulties faced by critical minds today when confronted with the Marxist position." But they recapitulate them in a specifically German form, and there is much in the arguments on both sides which is intelligible only when we take into account the "frog perspective" of the German intellectuals at the time of Metternich. Thus, by more explicitly relating their arguments to the existing German social conditions, Hook might have helped the reader to separate the wheat from the chaff.

B. It is refreshing to note that Hook maintains, against our latter-day barbarians among the Marxists, that Marx "was very sensitive to the logic of his opponents' positions," and that Marx's rejection of a theory "is primarily based upon his contention that it is false, not upon its social origin or import." Therefore Hook carefully expounds throughout his book the arguments which Marx brings forward against his opponents. But each one of these arguments does not stand on its own feet. If we assume that Marx's opponents were on the whole as well-meaning, honest and intelligent as Marx was himself, the fact that Marx's logic convinced neither them nor the majority of their followers seems to indicate that their conception of "logic" was different from that of Marx.

In other words: Some people come nearer the truth than others because their predilections favor contact with reality, where the predilections of others lead them to an estrangement from reality and create a gulf between them and things. There were in the main four predilections of Marx which guided and determined his intellectual development and provided the standards by which he measured the truth of his own and of his contemporaries' ideas. The determinants which give their force to Marx's arguments are his empiricism, his identification with the masses, his dialectical method, and his revolutionary temperament.

1. Marx had great respect for existing realities, a rare virtue among German philosophers and social scientists. Throughout his early writings, on page

after page, we feel the joy he felt at discovering a new field of concrete existence, which was overshadowed by the mysticism of the philosophers (Hegel and even Feuerbach) and which lay outside the horizon of the ignorant coffee-house literati. He turned away from Hegel's conception of the state when his eyes were opened to the day-to-day activities of the Prussian government (as Hook points out). His polemics against the "left" Hegelians are full of ironical remarks about the ignorance these literati displayed with regard to existing economic conditions. Everywhere he triumphantly, as it were, rubs the existing facts under his opponents' noses; he is fond of scoring points, as when he reminds them, in *Die Deutsche Ideologie,* that not London but Liverpool was in reality the centre of British trade with America.

2. Marx further advanced beyond his contemporaries because he tried to come into contact with the masses, because he took sides with them, tried to look at things with their eyes, in the light of their aims and of their commonsense. This attitude contrasts with that of Hegel who took the side of the privileged, with Feuerbach who, after 1848, withdrew into himself, and with the Hegelian literati who took the storms in the Berlin coffeepots so seriously that they overlooked the real existence of the masses and saw them early as a vague shadow of, or even as an obstacle to, the realizations of the Weltgeist that roamed in their books. This democratic bias is the second factor which gives force to Marx's arguments.

3. Marx believed that the dialectical method revealed reality as it is. It seems to me that Hook's book is at its weakest in the treatment of the dialectical method. I have always believed that one cannot grasp the Marxist dialectic, as scientific method, by pondering over its relations to Hegel or its philosophical implications. It seems to me that the abstract and philosophical side of dialectics should be boiled down to some few laws or rules, and that for the rest we should deal with the method *in its application.* Hook appears to agree, for he says that "the life of a method lies in its application. Only in application can its meaning be truly grasped." He then, however, proceeds for fifteen pages to discuss the dialectical method *in abstraction from* its applications, and I only take him at his word when I maintain that these fifteen pages do not help us to grasp the meaning of dialectics. The meaning of these pages is not very tangible, in a book which is otherwise a model of lucidity. Hook has shown in his article on "Marxism and Values" (in the first issue of the *Marxist Quarterly*) that he can give a dialectical solution of a problem. But in the "dialectical" section of his book (pp. 60-76) he has set himself an impossible and self-contradictory task when he tries to explain the dialectical method outside of or apart from its applications. Further, nothing more is heard of the dialectic after those earlier pages. We hear on p. 273, it is true, that Feuerbach did not understand the dialectic, but we are left in the dark about the way in which it helped Marx to

criticize and overcome the views of his contemporaries.

4. Lastly, and that is a point which Hook makes very clear, Marx's arguments were guided by a desire that something concrete should be done, in the sense of effecting changes in existing social reality. This desire constitutes Marx's revolutionary temperament, which so deeply influenced his ideas that the philistine who wants to keep out of the class struggle will forever be unable to understand them.

These seem to be the four predilections which allowed Marx to advance beyond his contemporaries. They are the red threads in Marx's intellectual development, and they are implicit in Hook's exposition of that development. If he has not brought them out more explicitly it is, I suppose, because he did not want to give us a new, but subjective, interpretation of Marx: he wanted to let Marx speak for himself. His scholarly book should help lift Marxist research and Marxist thought to higher levels.

EDWARD CONZE

The Confusion in Higher Learning

THE HIGHER LEARNING IN AMERICA, *by Robert Maynard Hutchins.* New Haven, Yale University Press, 1936; 119 pages; $2.

This book has already met with wide approval and at the same time encountered vigorous opposition. It is not an easy work to dissect, for while it has many valuable insights and practical suggestions, it is fundamentally an expression rather than a clarification of the present confusion in America's higher learning. Frankly I find it impossible at times to be quite sure what Hutchins is arguing. But it merits attention since it is the work of the president of one of America's largest universities, the University of Chicago, and may be presumed to represent his aspirations.

The unity of the book lies largely in his conviction that education itself should have a greater unity. The assumptions on which he operates are a set of homely truths concerning common values, at which, stated in their general form, anyone would probably nod approval. Examples are that education should make people think, that a thoughtful man gets down to (Hutchins would probably prefer up to) principles, that there should be a love of truth for its own sake, that tricks of a trade are secondary matters to be picked up in practice, that education is not a department store where anyone entering may pick and choose anything at all, but a discriminating discipline leading to something intrinsically worthwhile, and so forth. On the other hand, what thinking and principles really con-

sist in, exactly how the search for principles may unify higher education, why fundamental principles, whatever their character, may not be approached through *any* field, are questions answered at best only ambiguously.

Hutchins' diagnosis of the present confusion limits itself to a few pervasive evils in American higher education. These are treated as if they were the disease, in fact they should be viewed as symptoms. This enables Hutchins to avoid the responsibility of examining their social background and analyzing the precise economic, political and cultural conditions which generate or support such manifestations. It also accounts for the facility with which he shifts to "other agencies" whatever tasks he is unwilling to have his universities undertake.

To this accusation that his initial assumptions involve a renunciation of a broader social outlook, Hutchins would reply: "One purpose of education is to draw out the elements of our common human nature. These elements are the same in any time or place. The notion of educating a man to live in any particular time or place, to adjust him to any particular environment, is therefore foreign to a true conception of education." What modern anthropologists and social psychologists would have to say of the assumptions of this argument, we may here waive! With a certain charity it might be interpreted to mean that the formal character of thinking is identical regardless of its content. It is certainly upon the propositions quoted that Hutchins rests his account of the desirable general education of the junior college. The curriculum, which is intended to avoid the evils of vocationalism, of catering to students and the public under a false notion of democracy, and of an anti-intellectualistic bias, will develop a common fund of truths by the study of the greatest books of the western world and the arts of reading, writing, thinking and speaking, together with mathematics. For, "Education implies teaching. Teaching implies knowledge. Knowledge is truth. The truth is everywhere the same. Hence education should be everywhere the same." This argument is, however, palpably fallacious. Discounting the ambiguities of the third and fourth statements, the conclusion should be, "Education implies something that is everywhere the same," a quite different result. For education is a process, and even if there be a common truth it does not follow that there is under all conditions a similar mode of getting to it, that is a similar educational process. In spite of his immersion in Aristotelian philosophy Hutchins fails in his elaboration to draw the important Aristotelian distinction between the order of learning and the order of demonstration. Even if one end of education is a reflective individual who can transcend his own culture and understand whatever principles there may be of all cultures, it does not follow that the best process for achieving this may not be a gradual and critical adjustment of the student to the particular society in which he lives.

The point at issue is no small one. It is the premise of Hutchins' attack on the modern empirical attitude. I am not defending the form of the vocational

emphasis in the American scene. I think Hutchins is right in his criticism concerning the absence of reflective thinking in most such present-day teaching. But Socrates did not scorn to bring understanding through talking of shoe-making and weaving and painting and what men were concerned with in their daily lives. So too the education of the junior college might better work through the analysis of present-day society and its different activities than through a study of selected great books of the past. The spirit of Hutchins' curriculum is a greater insistence upon thinking. But surely this should be done in *any* and *every* field. It does not require a withdrawal of general education from contemporary society. Hutchins' proposals constitute a despairing retreat of the intellect because up to date it has failed to permeate the wider areas of human activity.

One of the best points in Hutchins' scheme is his envisaging an educational system in which general education will be provided universally through the junior college, and the university, which those going on to higher education will attend, will be divided not into multitudinous departments but into just three major fields of metaphysics, social science and natural science. Salutary also is his insistence that any profession justify its relation to the university by close dependence upon some set of sciences.

His discussion of the theoretical foundations of both general and higher education involves certain confusions. Hutchins thinks that he is propounding the need for some metaphysics to give unity to education; in fact he is for the most part propounding a specific metaphysics by insisting that only a hierarchy of ordered truths expressing the meaning of the world can be the basis of the search for truth for its own sake. The higher learning is concerned with principles and rules out mere collection of information. The latter is allowed only for the purpose of illustrating or confirming principles or assisting in their development. This shifts to the language of a different view which allows the possibility of alteration in principles under the impact of empirical research. If the consequences of this shift were elaborated the whole character of the higher learning would be transformed into a basic emphasis on empirical science. We may conclude, therefore, that Hutchins' educational views, despite confusion and his denials,[1] embody a special metaphysics. Nevertheless any of half a dozen metaphysics are compatible with the fundamental value implied in his educational criticisms and suggestions, *i.e.* the greater stress on intelligence and thinking in education. In addition, granted this value, what is erroneous in the suggestions may follow from too narrow an analysis of social needs and pedagogic requirements.

Now since there may be conflicting sets of values or conflicting interpretations of the same one, the whole question of the university's relation to groups

1 "Grammar, Rhetoric, and Mr. Dewey," by R. M. Hutchins, in the *Social Frontier*, February 1937, being a reply to John Dewey's two articles on Hutchins' educational theory in the previous December and January issues.

in the community is thrown open, and the question of control of the university's policies becomes crucial. On this Hutchins again is not too clear. He lists as one of the present evils a confused notion of democracy. He thinks that neither the common man nor his legislative representatives nor alumni nor trustees should have any control over the internal character of the institution, that is, the content of courses, curriculum or qualifications of the staff. "Academic freedom is simply a way of saying that we get results in education and research if we leave their management to people who know something about them." But professors have previously been accused by Hutchins of being unready to change the habits of their lives. Where then is control to lie or reform to arise? I suppose we can only parallel Plato's account of the state and say that a good university will arise when its president becomes a philosopher or a philosopher its president. It is a pity that Hutchins does not state more clearly whether he means control by a democratically run faculty. A careful reading of these pages suggests that he means a competent administrator, whose competence, however, is to be judged by the trustees. There is at least the suspicion of contradiction in this argument. Later, however, we are told that only men working on fundamental problems in metaphysics, natural science and social science would have a voice in the conduct of the university.

The confusion on the metaphysical question and on that of university control has already provoked some controversy in which Hutchins has been accused by Professor Dewey of an authoritarian attitude. If his protests against this are to carry conviction, Hutchins will have to restate his case. He should examine empirically the social and cultural conditions which are necessary for the maintenance of intellectual activity as a chief value in the university. Then he should ally himself with all the forces struggling to maintain such conditions.

ABRAHAM EDEL

The Social Significance of Biology

BIOLOGY AND HUMAN BEHAVIOR, *by Mark Graubard.* New York, Tomorrow Publishers, 1936; 413 pages; $3.

BIOLOGY is a science of immense potential importance to society. Both for the direct application of its findings and for the ideological importance of its methods, it is rapidly approaching in power the two sciences, chemistry and physics, whose development has played so large a part in the social-economic development of the past two centuries. We can think of four ways in which an understanding of the outcomes of biology must be useful for Marxists. The first two of these are immediate, the last two more remote. First, biology may be

expected to play an increasingly large part in controlling man's elementary needs: food, shelter, clothing. Second, biology can supply us with much valuable material for refuting reactionary theories about eugenics, about the "lower" classes, about the unchangeability of human nature, about superiority myths and race prejudice, and about religious anti-materialism. Third, biological science will eventually supply us with all we can know about human equality, human inheritance and human evolution at the biological level. Fourth, biology may be considered as a fine art, that is, as a field wherein works are produced whose contemplation may give pleasure to others.

Of these four, the first is easily the most immediate and the most far-reaching. The ability to reap the full economic benefits from biology depends, however, as much on the state of development of society as upon the state of the science. Biologists can study the biological needs of human beings, with respect to food, clothing, housing, sleep, water, and a dozen other matters. Other biologists can study the most efficient ways of satisfying these needs. While it is clear that other sciences than biology have important parts to play in this satisfaction, it is necessary to remember that even in a highly industrialized country like the United States some 65% of the value of all the raw materials used are agricultural products and therefore susceptible of improvement by applied biology.

The validity of the above emphasis in our period on the primacy of applied biology may well be illustrated by an example from the field of genetics. There are only a few professors of genetics in England; there are only a few hundred in this country. In the Soviet Union there are several thousand. J. B. S. Haldane estimated in 1932 that, while the United States led at that time in genetics, the Soviet Union would surprise us in ten years. The only direct research on the actual effects of natural selection (which was Darwin's chief mechanism in accounting for the facts of evolution) is now being done in Russia. The largest collection of wheats in the world, including some 23,000 varieties, is at Dyetskoe Selo. The only systematic research into the origins of the grains, fruits, nuts and fibers is the work of the school of N. I. Vavilov. In short, the study of genetics and evolution is being pushed in the Soviet Union as nowhere else. The jobs of developing the best wheat for each region, of getting the most milk from each kind of pasture, of replacing inedible pasture plants with edible ones, are of such pressing social and economic importance that no effort is spared and no expense stinted to advance the science. "Pure science" is also being encouraged, not as something separate, but as an allied undertaking. What is pure today may well be applied tomorrow.

One might expect that Graubard, as a geneticist and a friend of the Soviet Union, would mention these matters, but not a sentence do we find, either in the book under review or in his previous book *Genetics and the Social Order*!

Now Graubard quotes two, and only two, social philosophers with approval,

namely Marx and Engels. He must therefore consider himself a Marxist. We would expect him, then, to make some use of the important notion that social relations are affected by the means of production. That part of the means of production about which we might expect him to know a good deal is applied biology (both under capitalism and under socialism). It is just this relation that he omits completely. . . .

Space will not permit the adducing of examples from all the other parts of biological science. There is even an Institute of Folk Medicine, founded to investigate the remedies of all the peoples in the U.S.S.R. It was by comparable researches that several important drugs have recently been added to the pharmacopeia of "bourgeois" medicine. Perhaps new and interesting drugs have already been discovered.

Clearly then, if we understand Marxism as an intellectual tool for the bringing about of socialism, Marxists must know a good deal about the way in which biological science is applied in capitalist countries, about the way it is applied in Soviet Russia, and about the way that it may be applied in a communist society. Thus it will serve as a tool for propaganda as well as for further elaboration of a philosophy.

The second large field in which biological science is important to Marxists lies in its refutation of reactionary theories. Reactionary thinkers continue to elaborate doctrines of racial superiority as support for reactionary classes and governments. Age-old hates and fears are played upon by quotations starting "Science tells us——" Half-baked scientists like E. M. East, unbaked scientists like A. E. Wiggam, Madison Grant and Lothrop Stoddard, together with bought-and-paid-for liars like the Nazi racialists, occupy themselves with reinforcing, emphasizing and stirring up race prejudices. Modern genetic analysis in anthropology has reached two definite conclusions concerning the race question; first that there is no such thing as a pure race, and second that generalized superiority is not a term to which meaning can be given. Nor is there a group of humans anywhere that does not continually produce individuals differing among themselves so widely that the idea of a racial type has its meaning reduced almost to zero.

Similarly those who talk of the "lower classes," meaning those at the lower end of the economic scale, always assume that this sort of inferiority is innate, that is, inherited and transmitted. The most elementary consideration of the scientific method refutes this assumption. If we divide the factors affecting an individual's characteristics roughly into those predominantly hereditary and those predominantly environmental, then it must be remembered that no step can be taken toward determining which characteristics are "hereditary" until we have made sure that they are not produced by environment. Thus the first step in a genetic analysis would be the uniformization of the environment of a considerable group of human beings. Then we could *start* to investigate inheritance in

man. To be sure it does not take a very deep knowledge of biology or of scientific method to understand this. Graubard unfortunately confines himself to quoting imaginary statistics on the numbers of tennis players, poets and physicists produced by the tribes and peoples that were kept in darkness under the czars. It is possible to analyse the other reactionary theories, and it is important to do so.

The third impact of biology that may be important for Marxists is in the field of human inheritance. Since it is more remote in its urgency than the two already treated, and since it has been touched on in the preceding paragraph, it will not be dealt with at length. Graubard does not mention the work of R. A. Fisher, of S. Wright, of J. B. S. Haldane, of G. Mohr, except by indirection in saying that complicated statistical procedures will never take the place of direct investigation. No one doubts this, nor does anyone doubt that Graubard's own field could not even tabulate its data without the use of statistics. It was no accident that G. Mendel was a student of mathematics before he became interested in inheritance.

Biology as a fine art must also be skipped over here. It is already so viewed by many biologists, and will undoubtedly take its place with the other arts in a socialist society.

It is clear that a good book or series of books dealing with the connections of biology with human behavior and with the social order from a Marxist viewpoint, are greatly needed. How does Graubard treat them in *Biology and Human Behavior*?

The book is divided into three parts; a chapter on The Method of Science, six chapters on biology, then two on human nature and behavior. The first section is so low in tone that only a lengthy quotation could properly convey its intolerance, ignorance and carelessness. The philosophies of Aristotle and Leibnitz are used to typify "mystical" philosophies. They have two common feaures, says Graubard: "First, a whole-hearted willingness to offer hypotheses and to tie them up into a presumably consistent cobweb, when admittedly the facts at hand were very few and even those few not fully described or tested; second, a common propensity to permit certain questionable moral, social, or esthetic values to influence those theories, irresponsible though they were to start with." And that is the end of Aristotle and Leibnitz.

The six chapters on biology are much better, both in tone and in scholarship. Graubard writes especially well on genetics, even when he is not transliterating from Dunn. The misleading diagram, with the misleading text in his former work *Genetics and the Social Order,* has been improved in some respects (the centrosomes are now better placed), but the crucial difference between mitotic and reduction divisions is still unclear (for Graubard, chromosomes split lengthwise before they reach the equatorial plane). I call the difference crucial because it is so for geneticists, but unfortunately Graubard is later going to show that all

the genetics he has been teaching us is of no use for the understanding of human biology! It seems that the word race, as used in genetics, has no use at all with humans. It seems that the idea of *nationality* is much more important. He points out that in the concept of nationality developed by the Bolsheviks, after the October Revolution, the biological aspects were *rightly* left out as unimportant. "It should be obvious that this was a sign of critical acumen and clarity on the part of the author of the above definition because the biologic scale is of no particular value in man." If this irrelevance of biology be correct, we have the right to ask why, in the name of sense, we have been asked to study neurology, psychology and genetics through the preceding 258 pages?

ARTHUR BINSEL

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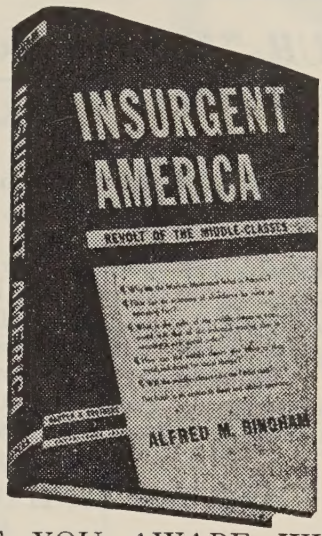

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